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OF THE KANSAS MEDICAL SOCIETY

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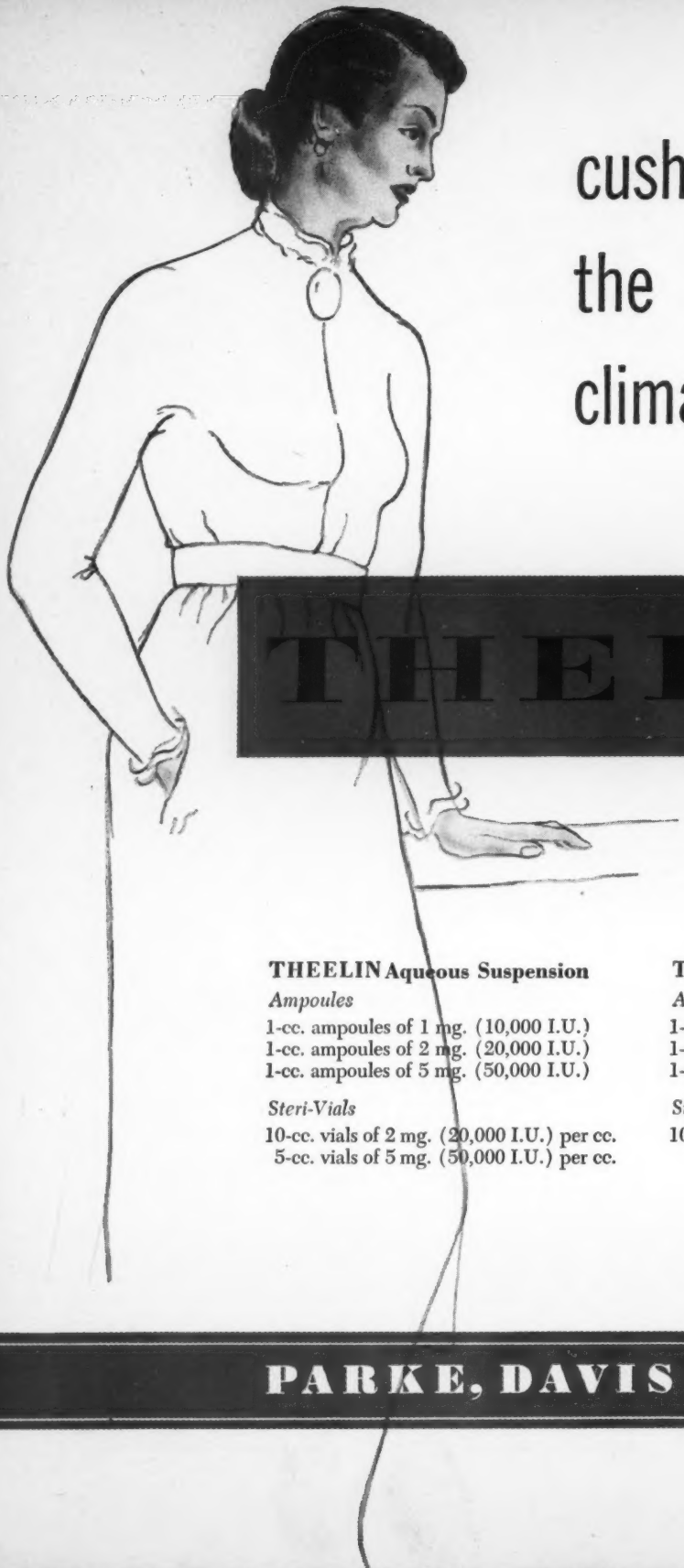

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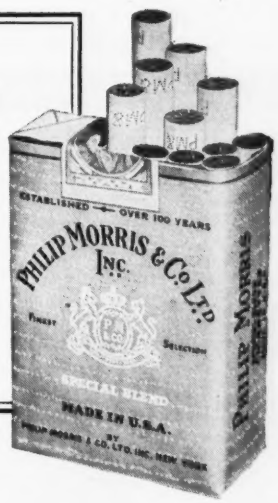

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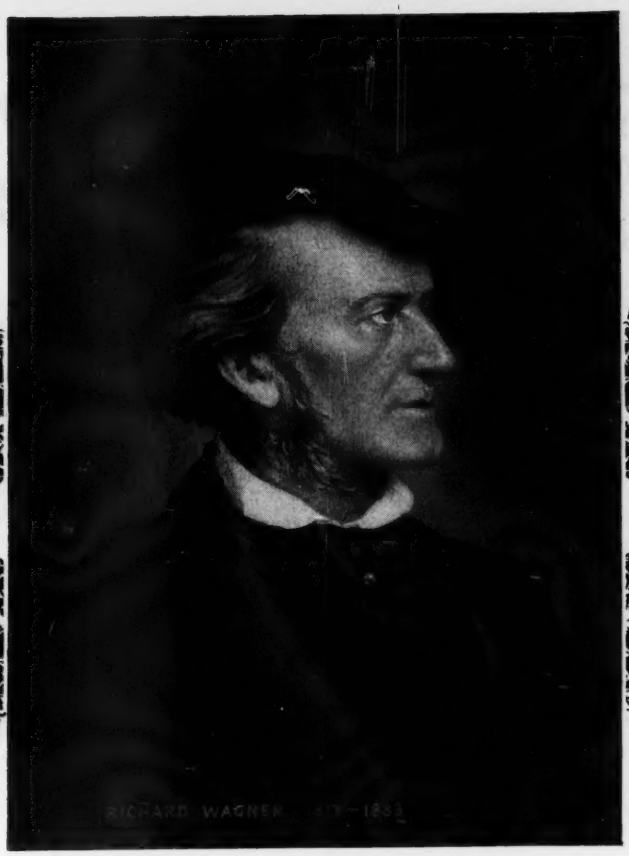

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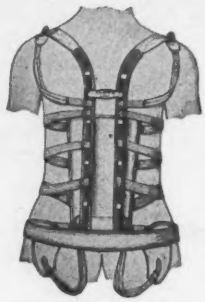

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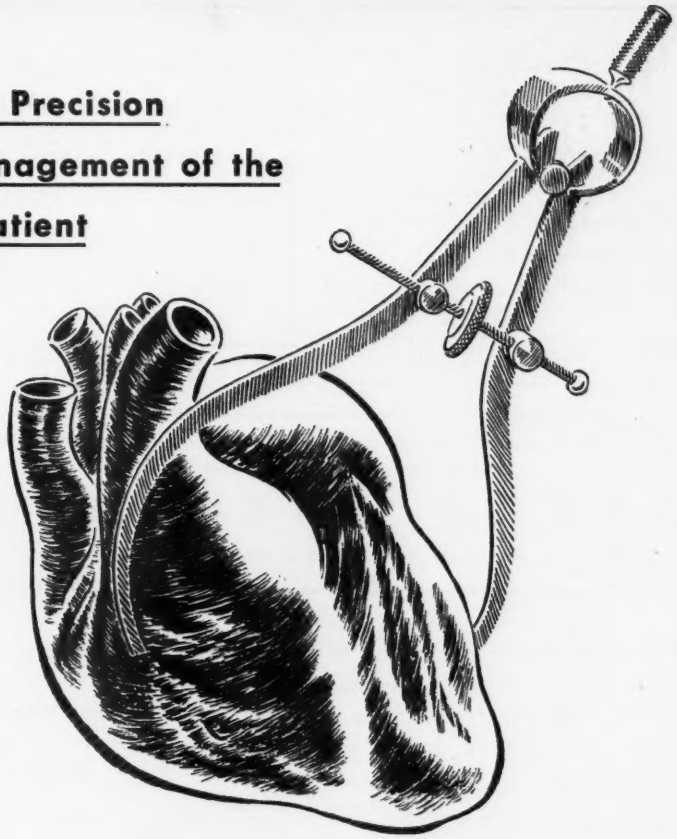

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RADIOLOGY—February 25-27, 1952
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SUBJECTS TO BE DISCUSSED

ROENTGEN STUDY OF THE GALL BLADDER.
LESIONS OF THE RIGHT COLON.
ULCERATION OF THE POST-BULBAR PORTION OF THE DUODENUM.
ROENTGEN STUDY OF ETHMOID ANATOMY.
MASTOID CHOLESTEATOMA
X-RAY EXAMINATION OF THE PARA-NASAL SINUSES.
MYELOGRAPHY.
P^{32} IN THE TREATMENT OF BLOOD DYSCRASIAS AND LYMPHOMAS.
THE NORMAL AND ABNORMAL SKULL.
TRAUMATIC LESIONS OF THE CERVICAL SPINE.
OSTEOGENESIS IMPERFECTA.
ROENTGEN MANIFESTATIONS OF PANCREATIC DISEASE.
RIGHT-SIDED AORTA.
BENIGN BONE LESIONS IN CHILDREN.
RADIOLOGICAL FINDINGS IN UPPER RESPIRATORY DISEASES IN CHILDREN.
TESTICULAR NEOPLASMS.
ROENTGEN EXAMINATION OF THE COLON.
BEHIND X-RAY, RADIUM, ARTIFICIAL RADIOACTIVITY, ATOMIC AND HYDROGEN BOMBS.
A PATHOGNOMONIC SIGN OF DISSECTING ANEUYSM OF THE AORTA: ROENTGEN DEMONSTRATION, PATHOLOGICAL DEMONSTRATION.
CONTACT ROENTGEN THERAPY.
BLEEDING LESIONS OF THE GASTRO-INTESINAL TRACT.
RADIATION THERAPY OF BURSITIS.
X-RAY THERAPY OF MARIE STRUMPEL ARTHRITIS.
TREATMENT OF CARCINOMA OF THE TONGUE.
BRAIN TUMORS IN CHILDREN.
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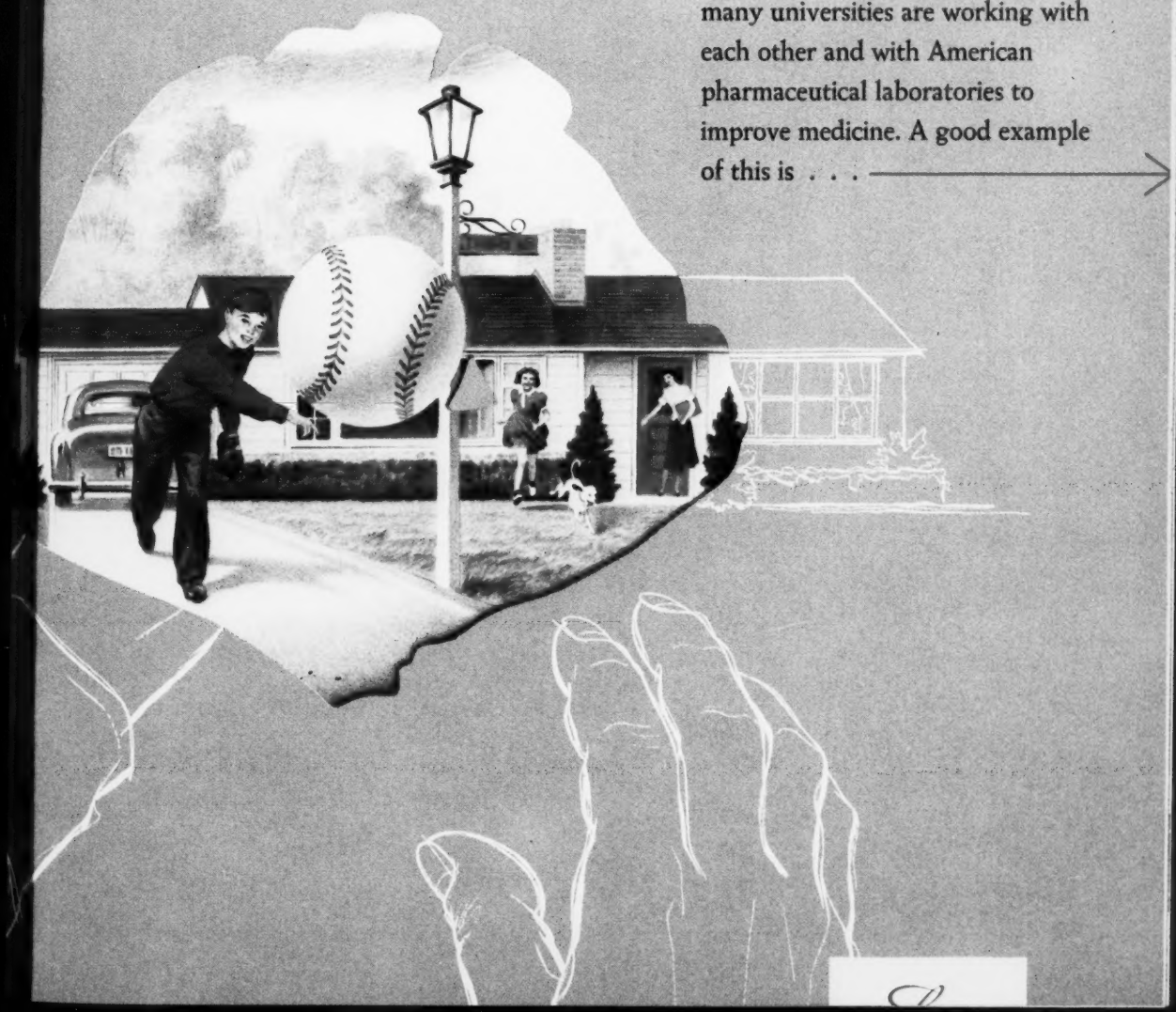

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Primary Carcinoma of the Lung: A Study of 120 Autopsied Cases*

David M. Gibson, M.D.**

Kansas City, Kansas

At the University of Kansas Medical Center, in the 35-year period from 1914 to 1949, there have been 12,812 autopsies; of these, there were 1,840 cases of malignancy, 1,432 being cases of carcinoma, and 120 cases of primary carcinoma of the lung. Thus, primary carcinoma of the lung occurred in 0.9 per cent of all autopsies, in 6.5 per cent of all malignancies, and in 8.4 per cent of all carcinomas. Cancer of the lung is sixth in frequency of all tumors, and fourth in frequency of all carcinomas; it is exceeded in frequency by sarcomas, intracranial tumors, and carcinomas of the stomach, colon and prostate.

Most authors find carcinoma of the lung in 1-2 per cent of all autopsies,[1, 2, 3, 4] and in 6-10 per cent of all carcinomas.[1, 2, 5, 6] Many state that lung cancer is second in frequency only to carcinoma of the stomach.[2, 7, 8]

There seems no question that the incidence of carcinoma of the lung has increased in recent years; some authors regard this increase as real,[4, 9] while others contend that it is only apparent.[3] Analysis of the frequency by five-year periods (Chart 1) shows that although in overall statistics, carcinoma of the lung ranks fourth in frequency of all carcinomas, there has been a threefold increase since 1939, so that in the five-year period from 1944 to 1949, it is exceeded in frequency only by carcinoma of the colon. Thus, it seems that there has been a real increase in the incidence of carcinoma of the lung in recent years.

General Features. In accord with other reported findings, this lesion occurs predominantly in males. In the present series, 102 were males and 18 were females, giving a ratio of 5.7:1, or 85 per cent males. Lung cancer most commonly occurs during the fifth, sixth and seventh decades, with the peak incidence between 51 and 56 years. In this study, the mean age was 54 years, with an age range from 29 to 89 years.

The right lung was involved in 51 cases (49.5 per cent), and the left lung in 49 cases (47.5 per cent); in two cases, both hila were involved, and one case occurred at the tracheal bifurcation. The primary lesion was hilar in location in 92.4 per cent, peripheral in location in 6.5 per cent, and was diffuse in one case. The right upper lobe bronchus was the most frequent site of origin, and was closely followed by the left upper lobe bronchus, left lower lobe bronchus and the right lower lobe bronchus.

Distant metastases were present in 86.5 per cent of the cases, while involvement of the regional lymph nodes alone occurred in six per cent. Seven per cent of the cases showed no metastases. The hilar lymph nodes were involved in 89 per cent of 111 cases; metastases were present in the lung of

*From the Department of Pathology and Oncology, University of Kansas School of Medicine.
**Trainee, National Cancer Institute.

Chart 1. Incidence of carcinomas by five-year periods (per cent of all autopsies)

Five-year periods	*Carcinoma Stomach*	*Carcinoma Colon*	*Carcinoma Prostate*	*Carcinoma Lung*
1914-1919	3.0%	0	2.0%	0
1919-1924	3.7%	1.1%	0.7%	0.7%
1924-1929	2.0%	0.05%	1.2%	0.5%
1929-1934	1.8%	1.3%	0.9%	0.6%
1934-1939	1.6%	1.0%	0.8%	0.6%
1939-1944	1.5%	2.0%	0.9%	1.1%
1944-1949	1.2%	2.1%	1.0%	1.7%

origin in 39 per cent, and in the opposite lung in 24 per cent. The liver was involved in 28 per cent; adrenals, 27 per cent; pleura, 18 per cent; brain, 17 per cent; bones, 16 per cent; heart, 16 per cent; kidneys, 14 per cent; gastrointestinal tract, seven per cent; pancreas, nine per cent; and the spleen was involved in five per cent. The thyroid gland showed lesions in two cases, and the parathyroids, thymus and ovaries were each involved in one case. The lesions in the brain involved the cerebrum in 15 cases and the cerebellum in seven cases. The bone lesions, as would be expected, were predominantly in the ribs and vertebrae.

Cough was the most common symptom in this group of patients, occurring in 50 of 86 cases in which an adequate history was obtained. Other frequent symptoms included dyspnea, chest pain and hemoptysis. It is interesting to note that of the 19 cases with proven metastatic lesions to the central nervous system, the initial and predominating symptoms were those of the intracranial lesion in 13 cases. The main symptoms were referable to bone metastases, rather than the primary lesion, in two cases.

The average duration of life, from onset of symptoms to death, was 8.28 months; the shortest interval was two weeks, and the longest period was 36 months.

Histological Findings. All the microscopic sections of each case included in this series were carefully studied and classified as to histological type of tumor present.* In each case included in this report, the tumor was seen in close association with bronchial epithelium, and as far as could be determined, appeared to be arising therefrom. In many cases, of course, the lesion was so far advanced that actual origin from bronchial epithelium could not be demonstrated; these cases were included only if there seemed no doubt as to their origin.

The neoplasms were classified as squamous cell carcinomas, adenocarcinomas and anaplastic carcinomas. Every effort was made to find features characteristic of either squamous cell or glandular growths. It should be pointed out that a large number of growths were exceedingly pleomorphic in character, and it was not unusual to find cells in acinar formation adjacent to sheets of cells resembling squamous epithelium. This is in accord with the findings of other authors.[10, 11, 12] In such instances, the growths were classified on the basis of the predominant cell type.

The carcinomas in the present series were classified as follows:

Squamous Cell Carcinomas—48 cases
- Well differentiated—33
- Undifferentiated —15

Adenocarcinoma —42 cases
- Well differentiated—29
- Undifferentiated —13

Anaplastic Carcinoma —30 cases

Thus, there are 62 well differentiated growths, and 58 undifferentiated ones. This distribution is in accord with other reported series[2, 5, 9, 12, 13, 14, 15] with the exception that the incidence of adenocarcinomas is generally higher here. This may be due to the fact that special effort was expended to avoid placing undifferentiated adenomatous growths in the anaplastic group.

Comparison of cell types. In an autopsy series, dealing largely with untreated, or at least unoperated, cases, where the carcinoma has been permitted to run its full course, the various types of growths lend themselves well to comparison. The only significant difference between the different cell types is that almost all the cases that did not metastasize, or which showed only extension to the regional lymph nodes, were of the well differentiated squamous cell type. The differentiated adenocarcinomas showed as much tendency to metastasize as the undifferentiated growths (Charts 2 and 3). It is also interesting in this respect to point out that many of the adenocarcinomas metastasized to bizarre locations (phalanx of the thumb, thyroid, parathyroid, thymus, skin) while the other types showed more orthodox lines of dissemination.

Histogenesis and Alveolar Cell Tumors. Most authors agree that the majority of lung tumors originate from bronchial epithelium. However, there has been great controversy over the role of the alveolar lining cells in the genesis of these tumors. Fried[10, 11] believes that all lung cancer is bronchial in origin and arises from the undifferentiated, totipotent basal cells of the bronchial epithelium. He

*I am indebted to J. O. Boley, M.D., for aid in classification and for reviewing many histological sections with me.

Chart 2. Distribution of metastases according to cell type (cases)

Cell Type	*No Metastases*	*Regional Nodes Only*	*Distant Metastases*
Differentiated Squamous	7	4	20
Undifferentiated Squamous	0	1	14
Differentiated Adenoca	1	1	23
Undifferentiated Adenoca	0	0	11
Anaplastic Carcinoma	0	1	28

also holds that the alveolar lining cells are reticuloendothelial cells of mesenchymal origin, and, as such, cannot give rise to a carcinoma. Other authors believe that the alveoli have a continuous epithelial lining,[16, 17] while still others contend that the lungs have a dual origin, the major bronchi arising from endoderm and the bronchioles and alveoli from mesoderm.[18, 19]

In recent years, however, there has been increasing evidence for the existence of alveolar cell tumors, and evidence of a relationship to pulmonary adenomatosis, or "jagziekte" of sheep.[20, 21, 22, 23, 24, 25] Criteria to be met for the diagnosis of alveolar cell tumors have been listed recently:[26] 1. alveolar cellular proliferation, characterized by the appearance of tall columnar mucus producing cells. 2. absence of an intrinsic tumor of the bronchial tree. 3. absence of primary adenocarcinoma of any other part of the body.

The prevailing views on the question of alveolar cell tumors are well described in a recent editorial in the Journal of the American Medical Association.[27]

One of the cases in the present series, classified as an adenocarcinoma, fulfills the criteria for an alveolar cell carcinoma. This tumor occurred in a 33-year-old man; the symptoms were chest pain, weakness, dyspnea and hemoptysis; the duration of life was approximately eight months. At autopsy most of the left lung was involved with tumor, except for a narrow rim of peripheral uninvolved lung tissue in some areas. There were a few small metastatic lesions in the liver. No primary bronchial origin could be found, and the histologic picture was that of an alveolar cell tumor.

All observers agree that in many inflammatory conditions the alveolar walls may become invested with a continuous lining of columnar or cuboidal cells that resemble epithelium; regardless of the origin of these cells, it seems logical to believe that a more powerful stimulus, or altered resistance on the part of the host, or the interplay of numerous other unknown factors might lead to the continuous perpetuation of these cells, with the formation of an alveolar cell tumor, either cancerous or noncancerous.

The existence of alveolar cell tumors as neoplasms exhibiting a characteristic architectural arrangement cannot be doubted; the controversy concerns the origin of the cells involved.

Summary

1. One hundred and twenty cases of primary carcinoma of the lung, observed at autopsy, have been studied. This lesion occurred in 0.9 per cent of all 12,812 autopsies, and in eight per cent of all 1,432 carcinomas. It is exceeded in frequency by sarcomas, intracranial tumors, and carcinomas of the stomach, colon and prostate. It is concluded that there has been both an apparent and a real increase in the incidence of carcinoma of the lung in recent years.

2. Eighty-five per cent of cases occurred in men. The mean age was 54, with an age range of 29 to 89 years.

3. The right lung was involved primarily in 49 per cent, and the left lung in 47 per cent. The lesion was hilar in location in 92 per cent and peripheral in location in six per cent.

4. Distant metastases occurred in 86 per cent; involvement of regional lymph nodes alone in six per cent; and metastases were absent in seven per cent. The liver, adrenals, brain, bones, heart, and kidneys were the organs most frequently involved.

5. Cough was the most common presenting symptom, followed by dyspnea, chest pain and hemoptysis. Of 19 cases with brain metastasis, the presenting symptoms of 13 were due to the intracranial lesion.

6. The tumors were classified as follows: squamous cell carcinoma, 48 cases; adenocarcinoma, 42 cases; anaplastic carcinoma, 30 cases.

7. In general it may be said that well differentiated squamous cell growths show less tendency to metastasize than other types, while differentiated adenocarcinomas behave much as anaplastic tumors do.

8. The histogenesis of primary lung tumors and the problem of alveolar cell tumors of the lung are mentioned.

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Chart 3. Distribution of metastases according to degree of differentiation (cases)

Degree of Differentiation	*No Metastases*	*Regional Nodes Only*	*Distant Metastases*
Well Differentiated	8	5	43
Undifferentiated	0	2	53

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Strangulated Partial Enterocele (Richter's Hernia) Within the Femoral Canal: Report of Two Cases Treated by Resection and Primary Anastomosis of the Bowel

Carl D. Enna, M.D.,* and Edward Guy, M.D.**

Kansas City, Missouri

In a review of the medical literature regarding the subject of partial enterocele, recognition is given to Guilielmus Fabricius Haldanus as first to refer to this type of hernia in the year 1598. A subsequent account of this condition was made by Lavater in 1672; however, it was not published until 1755. Alexis Littre, a French surgeon, who is credited as first to recognize hernia of the Meckel's diverticulum, made reference in a report published by him on August 18, 1700, entitled "Observations on a New Type of Hernia" to partial enterocele in an inguinal hernia.

It is believed, however, that these supposed cases of partial enterocele have been shown to have been instances of hernia of Meckel's diverticulum instead. The earliest mentioned report fully describing and differentiating partial enterocele was made by the German surgeon August Gottlieb Richter in an essay on the subject published during 1779-80. In view of this work it was later recommended by Frederich Treves of England that this type of hernia be referred to as Richter's hernia.

Though the term Richter's hernia has since been generally accepted and is yet used, it is not preferred for the following reasons: First, it may be questionable whether the tribute extended to Richter is appropriate in view of the association of the names of other men with the subject, and particularly since the first reference to the subject was made by Haldanus. Second, the use of a proper name is inadvisable for it precludes either anatomical or pathological descriptive terms that would convey a more exact definition of the disease. Third and last, it is generally inferred by the term that an enterocele is without exception engaged within the femoral canal. This obscures the fact that it may likewise occur within other abnormal openings of the abdominal wall. It is therefore recommended that the term partial enterocele be employed instead with the qualification of the designated involved hernia.

Partial enterocele may be defined as an affection in which only a portion of the circumference of the bowel becomes engaged within a hernia sac. Apparently without exception, it affects the anti-mesenteric border of the bowel. Strangulation may result with the development of irreversible circulatory changes. However, strangulation is regarded to occur rarely. In a review of the literature, several articles reporting an isolated case or few cases are noted. The report by Catell in 1933 states that he found only 14 cases which had come to operation during the period from 1899 to 1933 at the Lahey Clinic, to which he added two cases. Lyall and Luomanen presented a larger series of 17 cases from

*Attending surgeon, St. Margaret's Hospital.
**Assistant resident in surgery, St. Margaret's Hospital.

the Second (Cornell) Surgical Service, Bellvue Hospital, New York, taken from the records during December 1917 to July 1945.

Besides occurring within the femoral canal, it has been reported that partial enterocele has become engaged within other body orifices. The femoral variety make up the greater percentage with the inguinal and ventral types occurring next in frequency. Strangulation likewise has a higher incidence of occurrence within the femoral canal. This is understandable in large part on the basis of the following reasons: 1. The absence of mesentery to the incarcerated portion of bowel; 2. The anatomical structure of the femoral sheath and the relation of its contents. The sheath possesses a funnel shaped channel which invests the femoral structures and canal. Once a hernia develops a reactive process characterized by edema, hyperemia and swelling, reduction becomes difficult, after it has descended beyond the smaller external orifice of the funnel like canal. Ensuing events usually result in incarceration and eventual strangulation.

The diagnosis of partial enterocele carries a high incidence of error. A number of conditions have been mistakenly diagnosed which include various diseases that may cause lower abdominal pain. The disease is not recognized usually because of the following reasons: 1. A history of hernia is not obtained. 2. The bulge when produced by the hernia is usually small. It has been expressed that it is neither visible nor palpable in about 50 per cent of the cases. 3. Pain at the site of the involved hernia is infrequent. Instead, the complaint is usually referred to the abdomen. 4. The clinical picture is protean. It may simulate other diseases such as acute appendicitis, intestinal obstruction and/or other acute surgical diseases of the abdomen. It cannot be urged too strongly to examine the hernia rings, particularly the femoral, during the investigation of any acute abdominal emergency. The failure to recognize the disease early becomes associated with a greater morbidity and a higher mortality rate than that of ordinary strangulated hernia.

Treatment consists of immediate surgical intervention. The manual reduction of the hernia without visualization of its contents is mentioned only to condemn it. The bowel should always be examined. Although it is possible for reversible circulatory changes to take place, the incidence of strangulation is high, thereby creating a greater risk. Spontaneous fecal fistula has been reported to occur with eventual recovery.

Enterostomy has been advised on the basis of this observation. It is felt, however, that this procedure is inadvisable except perhaps for the unusual case in extremis. An enterostomy placed proximal to the site of strangulation is likewise losing favor and is probably no longer employed even in conjunction with resection and anastomosis of the bowel. Prior to the advent of chemotherapy and antibiotics, bowel resection was associated with a high post-operative mortality rate. This led to the acceptance of methods serving to divert the fecal stream such as by enterostomy or marsupialization. The purpose of these methods was to permit healing of the repaired bowel distal to the enterostomy or, in the case of exteriorization, to later enable a retroperitoneal closure. These measures have not been satisfactory from many aspects. Recently we have encountered two cases of strangulated partial enterocele engaged within the femoral canal, both patients making uneventful recovery following primary resection and anastomosis. The application of this surgical principle is now more widely accepted since the efficacy of the newer basterio-static and bactericidal agents has been demonstrated both experimentally and clinically.

Following are summaries of two cases accompanied with comments, particularly with regard to diagnosis and treatment.

Case 1. St. Margaret's Hospital No. 3988

White male, age 67 years, admitted August 7, 1950. Admission complaints were generalized abdominal soreness with nausea and vomiting of three days duration. The pain had localized to the lower right abdomen. There had been no bowel movement since the onset of illness.

Physical findings: T-99², P-84, B.P. 124/80. Significant findings were limited to the abdomen. It was soft and no masses were palpable. Tenderness

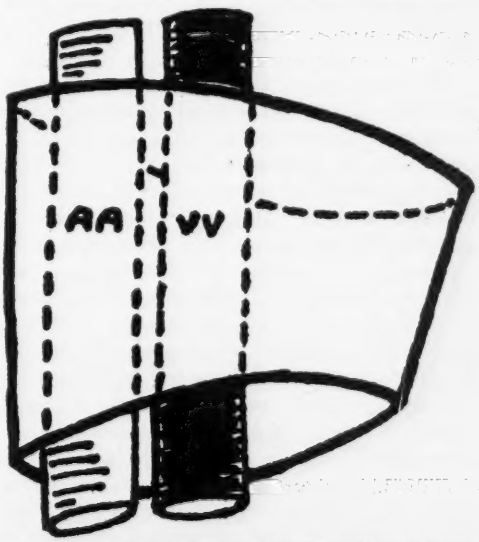

Figure. 1. Diagram of femoral sheath illustrating the shorter and oblique medial wall with resultant funnel shaped canal.

was localized about two inches below McBurney's point.

Laboratory reports: Urinalysis negative. CBC negative except for wbc, 8,800 and polys, 94 per cent.

Pre-operative diagnosis: Acute appendicitis.

Operative findings: 1. Considerable amount of clear amber fluid present within peritoneal cavity. 2. The serosal vessels of the appendix were congested, but there was no other evidence indicating acute appendicitis. 3. A loop of ileum within the pelvis was dilated and congested possessing deep red discoloration. 4. The ileum was adherent within the right femoral canal whereby a portion of its anti-mesenteric border was incarcerated and possessed irreversible circulatory changes. 5. There was about five cc. of dark bloody fluid within the sac.

Operative procedure: A McBurney incision was made and the abdomen was explored. Routine appendectomy was first performed. The ileum was then reduced by blunt dissection with a finger combined with gentle traction. The entire circumference of the affected bowel was resected and an end to end anastomosis was performed. The incisional wound was then closed.

Since the patient had tolerated the forementioned procedure well, it was decided to proceed with the repair of the femoral hernia. This was accomplished through a second incision. An oblique right inguinal incision was made, exposing the inguinal femoral region. The femoral sac was identified entering the canal within the pelvis. The sac was isolated and excised. Repair was accomplished by approximating the transversalis fascia to the superior pubic ligament (Cooper's ligament), followed by the approximation of the corresponding layers of the inguinal canal.

Post-operative course: Immediate ambulation was permitted. The patient was out of bed on the day of surgery. Gastric suction was not instituted initially. On the third post-operative day moderate abdominal distention unassociated with nausea and vomiting developed. This was corrected by the institution of gastric suction for 24 hours and the removal of a fecal impaction. Convalescence was otherwise uneventful. Discharge date was August 15, 1950, the eighth post-operative day. Follow-up examination 10 months subsequently revealed that the patient was quite well and had no complaints.

Comment: This case illustrates the following points of interest. The clinical picture simulated acute appendicitis. The McBurney incision was adequate for exploration, reduction of the incarcerated bowel, and resection with anastomosis of the gangrenous ileum. It was not adequate, however, to enable repair of the femoral canal from within the abdomen. The incision could have been modified by extending it vertically and inferiorly. Instead, it was elected to repair it through an additional incision. Both procedures were accomplished without jeopardy to the patient.

Case 2. St. Margaret's Hospital No. 4850

White female, age 62 years, admitted October 22, 1950. Admission complaints were generalized abdominal cramps associated with nausea and vomiting of 48 hours duration. Of less interest to the patient was a slightly tender lump in the right groin. She had passed no flatus or stool since the onset of illness.

Physical findings: T-97, P-80, B.P.-112/60. Significant findings were limited to the abdomen and groin. The abdomen was slightly distended but soft and without localized tenderness. Paristalsis was audible. There was a tender mass about one and one-half inches in diameter located at a site corresponding to the external femoral ring. The mass was irreducible.

Laboratory reports: Urinalysis negative. CBC negative with 10,700 wbc and 78 per cent polys.

Pre-operative diagnosis: Strangulated partial enterocele within the right femoral canal.

Operative findings: 1. Considerable amount of clear straw colored fluid within the peritoneal cavity. 2. Several distended and congested loops of small bowel due to obstruction as a result of incarceration of the ileum within the femoral canal. 3. A portion of the anti-mesenteric border of a loop of ileum was constricted and gangrenous. 4. There was about 5 to 10 cc. of dark bloody fluid within the femoral sac.

Operative procedure: An oblique right inguinal incision was made which exposed the inguinal femoral region from within the pelvis. The peritoneum was incised above the site of constriction of the sac at the internal femoral ring. The bowel was released, resected and anastomosed. The femoral canal was repaired by the closure of its internal ring followed by a conventional method of repair of the inguinal canal.

Post-operative course: Convalescence was uneventful. Immediate ambulation was permitted. The patient was discharged on October 29, 1950, the seventh post-operative day. Follow-up examination seven months later revealed the patient in good health without complaint.

Comment: The clinical picture as noted in this case indicated an incomplete type of intestinal obstruction. In considering that hernia is one of the most common causes of intestinal obstruction, coupled with the presence of a tender lump in the right groin, the diagnosis of partial enterocele was made. The exposure obtained by the inguinal ap-

proach enabled direct vision both intra and extra-peritoneally, thereby facilitating both the management of the affected bowel and the repair of the hernia.

Discussion

The importance of establishing an early diagnosis of partial enterocele cannot be over emphasized. It is made difficult since it may present a clinical picture simulating many diseases that cause lower abdominal pain. Delay needed for observation may turn into procrastination. Deference as noted in these cases may, on the other hand, be due to the patient. Certainly the examination of a patient with abdominal pain interpreted to require surgical intervention should include the investigation of all abnormal external openings of the abdominal wall. The importance of the pre-operative opinion is reflected in the choice of the incision that is made.

Any vertical lower right abdominal incision will serve for exploration. It may be extended to improve the exposure of the inguinal femoral region from within the abdomen. The McBurney incision may likewise be enlarged. Should the initial incision be considered inaccurately placed and its extension deemed inadvisable, it would then be preferable to close it and place another at a more advantageous site.

There are two phases in the surgical treatment of partial enterocele. One is the reduction of the engaged bowel with resection if indicated; the second is the repair of the hernia. The first measure is mandatory. Reduction may be accomplished with bimanual combined taxis and traction under direct vision. Digital dilation of the ring may be employed to facilitate its release. If the bowel cannot be freed, the ring may be divided. In the case of the femoral canal, the inguinal ligament should be severed close to the pubic spine to obviate injury to anomalous vessels, particularly an abnormal obturator artery. The contents are placed into a moist gauze pack. An effort is thus made to limit the potentially infected hemorrhagic transudate within the sac to avoid risk of contaminating the peritoneal cavity. With reduction accomplished, the viability of the affected bowel is then ascertained. Should the circulatory changes be irreversible, resection of a circumferential segment of the bowel with primary end to end anastomosis is done.

The second phase consists of the repair of the abdominal wall defect. This may be deferred if warranted because of the patient's condition. However, if the patient's condition permits, it can be accomplished either through the original incision or through a second incision placed over the site of the hernia. The exposure obtained by the inguinal approach when instituted has many advantages. It enables the accomplishment of both phases of surgery through the original unmodified incision. It particularly facilitates the repair of the inguinal femoral region.

The defect is preferably corrected by approximating the transversalis fascia to the superior pubic ligament. This step serves to obviate hernia of both the femoral and inguinal variety. Any conventional method of repair may be used providing it will serve to close the femoral canal. The femoral canal may be approached either from within the pelvis, whereby the internal ring is closed by approximating the inguinal and superior pubic ligaments, or from without, through the femoral approach which essentially accomplishes obliteration of the canal.

Conclusion

1. Early recognition and immediate surgical intervention is urged in order to attain a lower morbidity and mortality that may result from partial enterocele.

2. Its diagnosis can be more frequently ascertained if hernia rings are routinely examined in acute surgical diseases of the abdomen.

3. The inguinal approach is recommended for it provides both intra- and extra-peritoneal exposure through one incision and permits the accomplishment of both phases in the surgical treatment of partial enterocele, namely the management of the contents and the repair of the hernia.

4. The performance of primary resection and anastomosis of the bowel, when indicated, is preferable to the other previously employed methods such as enterostomy or exteriorization of the bowel.

5. The application of the following principles post-operatively is of equal importance in contributing to recovery. Early ambulation is encouraged. Gastric suction is not recommended as a prophylactic measure; it is felt that it will serve only to deprive the elderly patient of much needed electrolytes. Parenteral fluids are given to restore water, electrolytes and vitamin requirements and to maintain nitrogen balance. Fluids are given orally as soon as peristalsis becomes audible. Chemotherapy and antibiotics are administered on the basis of their value from a prophylactic standpoint.

6. It is our opinion that the combination of the above mentioned factors will serve to minimize the morbidity and to lower the mortality of partial enterocele.

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Infarction of the Right Ventricle: Report of a Case

Ann Pollak, M.D.*

Kansas City, Kansas

Infarction of the right ventricle is generally considered to be an entity of great rarity. Numerous textbooks on the subject of cardiology[1, 2, 3] and of pathology[4, 5] refer to it as occurring uncommonly. For this reason a report of a case is submitted.

L. W., an 82-year-old white female, was first admitted to the Kansas University Medical Center nine months before death complaining of shortness of breath and swelling of the legs. The history was obtained only with difficulty as the patient was deaf. Apparently, the present illness had begun seven months previously (16 months before death) with dyspnea and ankle edema. The patient's physician treated her with what was apparently ammonium chloride, and "two white heart pills two times a week." The patient took the medication only irregularly. One month before admission she developed increasing leg edema, up to the thighs, and abdominal enlargement. Dyspnea became severe, and a cough appeared. For two weeks prior to admission the urinary output had been reduced.

The family history revealed that one brother died of heart disease.

Physical examination on admission revealed that the patient was a poorly nourished and acutely ill white female in acute respiratory distress. BP=135/90, P=92, R=36 and T=96. She was mildly cyanotic. There was three to four plus edema of the extremities, abdomen, chest wall and of the right arm and breast. The neck veins were distended. Examination of the chest revealed that the AP diameter was increased, and respirations were rapid and labored. The apices were clear and there was dullness at both bases. The breath sounds were diminished at both bases, and in this region there were fine, moist, inspiratory rales, more marked on the left. The heart was enlarged with the point of maximal impulse in the anterior axillary line in the fifth interspace. The rate was regular with occasional premature ventricular contractions. The sounds were of poor quality. No murmurs were heard. Examination of the abdomen was unsatisfactory owing to edema of the abdominal wall, but a fluid wave was made out. The radial arteries appeared moderately sclerotic. The dorsalis pedis arteries could not be felt, presumably owing to peripheral edema.

The laboratory examinations were essentially normal except for the urine which contained one plus albumin, 10 to 15 white cells and eight red cells per high power field. The NPN varied between 26 and 50 mg. per cent with most of the results being around 40 mg. per cent.

X-rays and fluoroscopy revealed an enlarged heart with both ventricles enlarged. There was more enlargement of the right ventricle, however, than the left. The aorta was markedly sclerotic.

The electrocardiogram showed a left bundle branch block.

The patient was placed on the usual cardiac regime including 0.2 mg. of digitoxin O.D. and responded with steady improvement. Her chest cleared, the peripheral edema decreased. She was dismissed comfortable and ambulatory after three weeks of hospitalization.

The patient was readmitted 8½ months later with the chief complaint of pain in the chest. About 10 days before, the patient developed an upper respiratory infection with a progressive increase in cough. Five days later the patient developed chills and fever. Later, the patient developed tachycardia, dyspnea and finally disorientation. Two days before admission the patient developed pain in the right chest on inspiration.

Physical examination on admission revealed an acutely ill, dyspneic, disoriented and frightened woman. T=101.6, BP=120/80, R=28 and P=120. Examination of the head revealed herpes simplex and reddening of the mucous membranes of the tongue, pharynx and nose. The lungs presented a palpable and audible friction rub over the entire

*From the Department of Pathology, University of Kansas School of Medicine.

right chest wall. Fremitus was increased at the right base, dullness was present and rales were heard in this area. The pulse was 120 and was totally irregular with a well marked pulse deficit. A grade I systolic murmur was heard over the entire precordium. The liver was two fingers breadth below the costal margin and was tender. There was no peripheral edema.

The laboratory examination again revealed a trace of albumin and a few red and white cells per high power field in the urine. The white blood count equaled 22,100 with 92 per cent polymorphonuclear leukocytes, four per cent lymphocytes and four per cent monocytes. The NPN rose from 60 to 85 mg. per cent. The creatinine equaled 2.3 mg. per cent and the CO_2 combining power varied between 16 and 22 mEq. per cent. A nose and throat culture was positive for a few colonies of a Friedlander's bacillus. The cold agglutinations were positive in a dilution of one to 256. Streptococcus MG agglutinations were negative in all dilutions.

Chest x-ray revealed that the heart was far above normal limits in size with enlargement chiefly of the left ventricle, the aorta was tortuous but not widened, and there was diffuse softening of all bronchial trunk markings. An opacity was present at the right base involving primarily the middle and lower lobes. Diagnosis was an enlarged hypertensive contour heart, and pneumonia at the right base.

The electrocardiogram showed auricular fibrillation, and a left bundle branch block was still present. There had been some changes in the configuration of the QRS complexes in the limb leads since the previous tracing.

The patient was treated with penicillin, aureomycin and a routine cardiac regime. She was somewhat improved the day after admission, but on the third hospital day appeared more toxic than before and failed to rally to emergency treatment which included dihydrostreptomycin, chloromycetin and ACTH. She died in a few hours.

Autopsy revealed an enlarged heart, both ventricles and the right auricle being dilated and hypertrophied. The interventricular septum bulged into the lumen of the right ventricle. There was an old healed infarct in the right ventricle measuring approximately 1.5 by 1.5 by 0.3 cm., extending from endocardium to epicardium. This region was largely replaced by a broad band of scar tissue containing few inflammatory cells (Figure 1). Ante-mortem thrombi were found in the lumina of both ventricles and the auricular appendages of both atria. The left ventricle showed extensive areas of scarring, most intense around the A-V node and the left branch of the bundle of His. There was a fresh ante-mortem thrombus in the anterior descending branch of the left coronary artery. The posterior circumflex branch was small, but showed no arteriosclerosis. The right coronary artery was large, but was partially occluded by sclerosis.

The lungs showed evidences of congestion, multiple pulmonary emboli in the smaller vessels, and bronchopneumonia. The pneumonia present was consistent with the diagnosis of a virus pneumonia, but by no means suggestive of it.

There was severe chronic passive congestion of the viscera, especially the liver, and small old areas of softening in the brain.

This, then, represents a case of old infarction of the right ventricle. In retrospect, it is impossible to see how the diagnosis could have been made before death. The electrocardiograms merely showed a left bundle branch block, and (terminally) auricular fibrillation. The healed infarct in the right ventricle was associated with severe right sided failure as evidenced by x-ray. The autopsy showed severe chronic passive congestion of all viscera. The autopsy also showed, however, that a Bernheim's syndrome was present with bulging of the septum into the lumen of the right ventricle. This, in itself, would tend to produce right sided failure, and visceral congestion.

Summary

A case of healed infarction of the right ventricle is presented. This is a rare lesion. In this case this lesion would appear to be undiagnosable during life.

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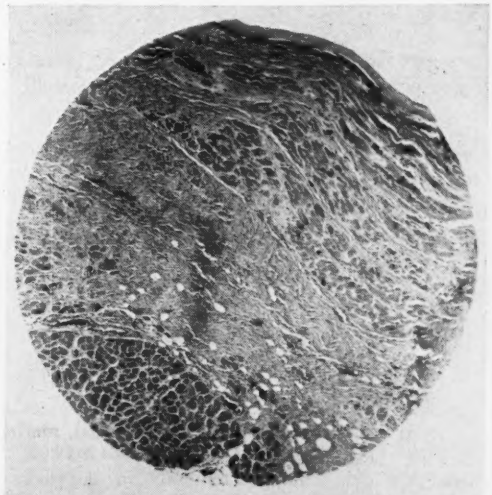

Figure 1. Healed infarct of right ventricle, x 70.

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Errors in Diagnosis: How Made and How Avoided

Ralph Gorrell, M.D.

Clarion, Iowa

Errors in diagnosis are of vital importance to every physician. Until a diagnosis has been established, all knowledge of treatment technics cannot be applied.

There is no such thing as pure "medical" or "surgical" diagnosis. The patient requiring surgical procedures may well have a non-surgical disease also. The medical patient may develop a complication requiring prompt surgical attention or may have an underlying surgical disease, e.g. goiter, which prevents complete recovery.

Anyone who has been in practice, be it general or special, who keeps records and who follows his patients, realizes that he makes diagnostic errors. Analyzing a group of such errors reveals that they arise chiefly because facts are omitted or are misinterpreted. The various causes of errors are outlined below, together with methods of avoiding them.

Omission of facts	*How Avoided*
I. History	
a. Incomplete	
1. Concerning chief complaint	1. Careful analysis as to time, relation to other events, relief, duration, progressing severity.
2. Past medical history	2. Have patient fill out a self history form (see below); review history from time of birth.
3. Diet	3. Have patient write out a list of all foods actually eaten in previous three days; are food essentials being taken?
4. Psychosomatic story	4. Self history form. Review if signs do not fit symptoms, when complete examination negative, when psychic symptoms (nervousness, crying, unusual attitudes) indicate. Omissions are important.
5. Survey by systems; other complaints	5. Self history form plus review of each system of body. Follow up of diagnostic leads.
b. Inaccurate	
1. Ask questions that suggest symptoms; leading questions.	1. Ask questions that may be answered in one of several ways; don't use "yes or no" type questions.
2. Questions are not clear to patient.	2. Use common terms when asking about symptoms; does he understand you? Patient may be too embarrassed to stop a flow of questions.
3. Embarrassing questions, personal, marital, sexual, family harmony.	3. If the physician shows no embarrassment, the patient often takes such questions as a matter of course. Delay or avoidance of answering on the patient's part may be a diagnostic lead.

4. Answers do not rightly fit in with other parts of history or examination.	4. Question may not be understood. May be diagnostic pointer, e.g. patient complains of severe pain yet smiles and carries on usual activities.
5. Physician jumps at a "snap" diagnosis, then asks questions to support that diagnosis.	5. Use regular routine, even if the diagnosis seems evident. "A snap diagnosis is a short cut to the wrong diagnosis."
6. Patient mentions only symptoms that seem important to him.	6. Use regular routine history; use self history form.
II. Physical examination	
a. Inaccurate	
1. Normal not known to (a) Individual physician (b) Medical profession (not taught, not in literature)	1. Examine normal persons whenever possible. Don't overinterpret minor deviations from the usual. Re-examine in a month.
2. Sign thought to be present.	2. Is it there on repeated examinations? Can others detect it?
3. Mistaken interpretation of sign present.	3. A physical finding may have several causes.
b. Incomplete examination	
1. Physical examination incomplete, neglected or overlooked.	1. Make yourself follow a regular routine, to avoid overlooking important signs.
2. Special type of examination needed, e.g. neurologic, orthopedic.	2. Ask for consultation. If minor condition, learn relevant examination technics and range of normal.
3. Physical signs not known.	3. Look at illustrations depicting various physical signs (see below), in journals and books; watch for them in lectures.
III. Laboratory and X-ray Examinations	
a. Incomplete	
1. Omission of procedures relevant to this patient.	1. Follow up leads in history or physical examination.
2. Omission of routine procedures.	2. Early disease is often without symptoms, e.g. diabetes. Advanced disease may have few or no symptoms.
3. Place of screening procedures, on patients who may have serious disease or who wish a thorough workup.	3. Urinalysis, sedimentation rate, Wassermann test, red and white blood cell count, x-ray of chest (and possibly of abdomen), tuberculin test, in addition to history and physical examinations which are screening procedures themselves.
b. Inaccurate	
1. Is this the patient's x-ray or test? (a) Confusing names (b) Confusing numbers	1. Check name carefully; identify film. If serious diagnosis indicated by test or x-ray, repeat.
2. Inaccurate laboratory technic and indications (a) Wrong time for test	2. Beware the uncontrolled technician, in the small hospital or commercial laboratory, who uses "cookbook" methods. Beware *any* technician

(b) Wrong test for disease	who is not supervised by a competent diagnostician or pathologist. Don't order blindly, e.g. "blood chemistry." Don't spend patient's or hospital's money wildly.
(c) Normals not known	
(d) Good technic not used, or not followed.	
(e) Clear cut tests not known.	
(f) Tests used as substitutes for thinking.	
3. Misinterpreted x-ray or laboratory test because of belief that it alone is diagnostic.	3. Many "confirmatory" tests are not specific, e.g. an elevated uric acid is not essential to a diagnosis of gout. *Sooner or later, all tests must fit the patient.* Electrocardiograms are often overread.
(a) Pathologic report.	(a) Pathologists make errors too. Pathologists' standards of normal may not be true. Certain conditions cannot be diagnosed from slides alone.
IV. Course of disease and patient a. The course of a disease may be diagnostic or a new diagnosis may become evident as the underlying disease; a new disease may be added.	IV. Carefully observe and *record* the course. If atypical or if new symptoms or signs appear, look over the study and re-think the diagnosis. Is this a new diagnosis or a complication? Psychosomatic factors appear.
V. Response to therapy	V. Be sure that all diagnostic steps have been taken first. Be sure that the therapeutic trial is clear cut—give only one medication, one treatment or one operation. Is the therapy specific? Is the relief subjective, due to your encouragement?

Misinterpretation of all facts	*How Avoided*
I. History, physical examination, laboratory and x-ray course.	1. Review above, after completion of work up.
II. Sum of above may be misinterpreted.	
a. Differential diagnosis not complete	a. Use *printed* list of differential diagnostic possibilities. "Diagnosis is easy if the condition is remembered." The mind can carry only a limited number.
1. Generalized disease simulates local disease.	
2. Local disease simulates systemic disease.	
b. Diagnostic essentials not known or confused.	b. Learn the *essential* diagnostic points.
c. More than one disease may be present.	c. One disease does not rule out others. Keep an open mind for other diagnostic possibilities.
d. Attempt to force facts into a diagnostic picture.	d. Avoid speculation as to very rare diseases. The facts must fit the patient's condition.

During the time of history taking and performing physical examination, diagnostic possibilities come to mind. Jot them down on the margin of the sheet, and refer to them when summing up. These impressions may point the way to the correct diagnosis.

One should combine the attitude of the older clinicians, who thought clinically and considered the patient as a person, and the newer physician, who believes nothing that cannot be shown by x-ray or laboratory. *Both attitudes are incomplete in themselves.*

93RD ANNUAL SESSION
KANSAS MEDICAL SOCIETY

Kansas City, Kansas **April 27—May 1, 1952**

Committees of the Wyandotte County Medical Society, hosts for the meeting, have been active for many months preparing an outstanding program and interesting social events. A partial list of the guest speakers follows:

Medicine	**Thomas Findley, M. D.,** Professor of Clinical Medicine, Tulane University, New Orleans, Louisiana.
	Bayard T. Horton, M.D., Associate Professor of Internal Medicine, Graduate School, University of Minnesota, Rochester, Minnesota.
	R. D. Pruitt, M.D., Assistant Professor of Medicine, University of Minnesota, Graduate School of Medicine, Mayo Foundation, Rochester, Minnesota.
Obstetrics and Gynecology	**Maurice E. Davis, M.D.,** Associate Professor, Obstetrics and Gynecology, University of Chicago, Chicago, Illinois.
Orthopedics	**George J. Garceau, M.D.,** Professor of Orthopedic Surgery, University of Indiana, Indianapolis, Indiana.
Pediatrics	**Phillip J. Howard, M.D.,** Department of Pediatrics, Henry Ford Hospital, Detroit, Michigan.
Surgery	**L. Kraeer Ferguson, M.D.,** Professor of Surgery, Graduate School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania.

The headquarters hotel will be the Town House, Kansas City, Kansas, and it is now time to make reservations. The first hundred applications received will be accepted at the Town House, and arrangements have been made to assign those in excess of that number to four hotels in Kansas City, Missouri, the Continental, the Muehlebach, the Phillips, and the President. All who desire accommodations will be cared for, and all hotel assignments will be made through the Town House.

Address requests for rooms to—

Manager, Town House, Kansas City, Kansas

PRESIDENT'S PAGE

Dear Doctor:

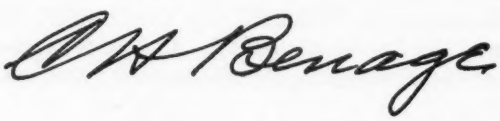
The Inter-Allied Professional Advisory Council had its first official meeting December 16 in Topeka. The Kansas Nurses Association, the Kansas State Dental Association, the Kansas Hospital Association, the Kansas Pharmaceutical Association, the Kansas Veterinary Medical Association, together with the Kansas Medical Society, met for organizational purposes. It is the expressed opinion of this council that it shall, in the future, assist in promoting better public relations, better economics, better government, better understanding of joint social obligations, and better health for all citizens of Kansas.

The meeting exemplified the spirit of Christmas, in so much as Inter-Allied professional transgressions were forgiven and trust was restored. There existed a spirit of motivation, a spirit to accomplish the ideas upon which the council was founded. I sincerely trust that this meeting marked only a beginning of a long succession of uninterrupted achievements! I am confident that there exist unlimited potentialities, provided of course that each member of his respective professional group gives proper support, respect and courteous consideration to each and every member of all other groups concerned.

I beg of each doctor, each Auxiliary member and each medical assistant to cooperate in the promotion of the principles of this council, and I am sure that by so doing each will have made some contribution to a better thinking and acting civilization. It is interesting to note that history records most civilizations have failed, not through external aggression, but by way of domestic corruption, and I am sure that each and every one of us feels privileged to take some part in the prevention of such disaster.

The preservation of unity and maintenance of competitive strength like democracy must maintain its position by action; the basic requirement being constant and judicious work by each and every participant.

The health of our nation has been under question since 1945. Those who are rightfully charged with the care have succinctly been accused of failure, yet the accusations have not been proven, but as late as the last week in December the President of the United States appointed another committee to study the nation's health. So loosen not your armor and let your defense fall, for then surely the road to defeat will be open.



EDITORIAL COMMENT

Interprofessional Advisory Council

The first meeting of the Interprofessional Advisory Council represents a historic occasion for Kansas. This is the first formal cooperative effort which is actively endorsed and participated in by the six major health service organizations of this state. Benefits from comparable meetings at a local level or through committee efforts of the various organizations have previously been experienced, but this marks the first time that all groups have met together in their common interest with full endorsement given by each of the organizations involved.

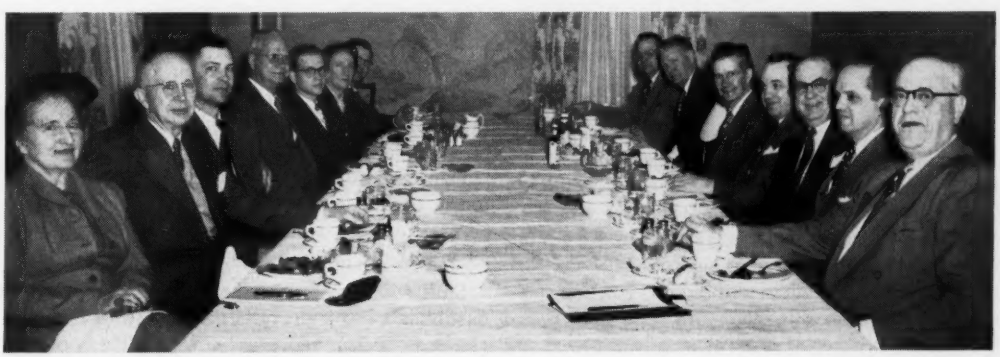
Major credit for this achievement must go to Dr. C. H. Benage, president of the Kansas Medical Society. It has been a dream of his which achieved reality at this meeting only after many hours of careful planning and diligent effort on his part. It represents a project that could well become one of the most significant programs of the Kansas Medical Society and is a personal contribution made possible through the efforts of the president.

The Interprofessional Advisory Council is exactly what its name implies. It is completely voluntary and non-official. Its actions can in no way bind or limit any of the participating societies. Its effectiveness will depend entirely upon the success of the various members in obtaining the cooperation of their own professional groups. And this very democratic structure provides the council with its major strength.

Membership in the council includes the Kansas Hospital Association, Kansas Medical Society, Kansas Nurses Association, Kansas Pharmaceutical Association, Kansas State Dental Association, and Kansas Veterinary Medical Association. Each association will have equal representation which at present stands at two voting and one ex officio delegate. Each association selects its own representatives, but the seriousness with which this new project is undertaken may be illustrated from the fact that almost all selected their president and one other high ranking official as delegates. The ex officio member is customarily the executive secretary. Meetings will be called from time to time as the need arises, and the first, held in Topeka on Sunday, December 16, 1951, served primarily to complete the organization. Dr. C. H. Benage was elected chairman of the group.

The purpose behind the Interprofessional Advisory Council could be expanded into a lengthy discussion. Brevity will sacrifice something in the story, but it might be condensed as follows. The council will be non-partisan in all its activities and will never reduce its efforts to subjects of petty differences of opinion. It is designed to provide a better quality of total health to the people of this state, and toward that end hopes to achieve a greater degree of cooperation between the major health service professions. The council hopes to coordinate activities of these major associations to where all can be more productive and successful. This applies not only to areas of service but to such programs as public relations as well. Differences of opinion between two or more of the groups represented will be frankly and fairly discussed in a sincere effort to resolve such problems. All will cooperate with the various efforts of the Kansas State Board of Health. And the council will aid in health legislation by reviewing in advance the bills proposed by the various member associations.

Once again, endorsement by the council does not commit the member associations, but council effort involves a higher degree of understanding than



Pictured above, at the first meeting of the Interprofessional Advisory Council, from left to right, are: Mrs. Ann Galt, Topeka; Mr. Paul A. Crowell, Pittsburg; O. W. Morris, D.V.M., Parsons; Mr. Charles S. Billings, Topeka; Mr. R. A. Molgren, El Dorado; Mrs. Clara B. Miller, Topeka; Mr. Lloyd C. Raish, Topeka; Fred B. Ogilvie, D.V.M., Kansas City; Edwin J. Frick, D.V.M., Manhattan; Sr. Mary Leona, Pittsburg; Otis B. Gentry, D.D.S., Girard; Frank C. Carothers, D.D.S., Garnett; Fred A. Richmond, D.D.S., Kansas City; Thomas R. Hood, M.D., Topeka; C. H. Benage, M.D., Pittsburg.

could be achieved without it. This factor, even if there were none other, would in itself altogether justify its continuance, for if the principal health agencies of this state are united in their endorsement of a piece of health legislation it almost certainly will work toward the benefit of the people and should have a better chance of passage than if support came from only one of the groups.

Happy New Year—1952

Last year was good to us, taking all things into account. We had our share of natural disasters but the flood left no epidemic in its wake, thanks to the services you rendered the people of this state. We had our share of problems, many remaining unsolved, but the new year enters with the public still free to choose their own doctor, and the standards of medicine remaining high.

We made mistakes, but we also experienced progress. More rural areas in Kansas have adequate medical care today than ever before. Medicine has greater skill than during any year in history, and as a result people live better and healthier and longer than was ever possible during the past.

Even greater progress is promised for the future, so a new year's greeting at this time portends much that was never dreamed possible in the past. So, in spite of what you fear and in spite of the problems ahead, this can be the greatest 12 months in history. Certainly, no one would turn the calender back, even if this were possible. Suppose you could. Suppose this were not 1952 but some other moment in history—would you trade the current year for any of them?

Happy New Year 1941. Germany is plundering Europe and before next Christmas rolls around Japan will have blasted Pearl Harbor. Then will follow the long desperate retreat out of Corregidor, Burma, the Pacific Islands before the weary road back can be taken. All this year you will work without penicillin because it did not become available until several years later. You had no knowledge of aureomycin nor the possibilities of aid from atomic radiation.

Or go back to 1930. We were mired deep in a depression. There were bread lines, and public welfare was just beginning to grow into big business. Collections were poor, prices low, industry was idle.

In 1930 your pneumonia patient recovered or died almost in spite of anything you could do, for the first of the modern antibiotics was not announced until later this year.

Suppose this were 1920. We are in a period of high economy after the war. Wages are good, prices are inflated. Everything is in turmoil, people are boisterous, confident, happy. In this year the League of Nations was organized. The Volstead Act had been in force for a few months, and women voted for the first time.

But your 10-year-old diabetic patient could not expect to see another Christmas because you did not have insulin to give him until this summer. The diabetic of 30 had an expectancy of just six more years but now, as you know, he may continue virtually a normal life span.

Happy New Year 1895. Some will still remember there were no airplanes or radios at this time. Marconi announced his wireless this year, and the Spanish-American War was just over the horizon. The big news came from a man named Roentgen who discovered a mysterious new ray of light that enabled him to see bones inside the body. This marked the beginning of a great new era in medicine, the benefits of which are continually expanding.

Would you prefer 1891 when the first diphtheria immunization was given, or 1885 when Pasteur announced the pasteurization of milk?

Or 1867? The Civil War was over. Lincoln was dead. The Ku Klux Klan was one year old, and the many distresses of uniting this nation were beginning to be felt. During this year Alaska was purchased and Canada became a dominion. The first typewriter was built, but the telephone waited nine more years before arriving on the scene.

This was the year that Lord Lister wrote his treatise on antisepsis and marked the beginning of modern surgery. Sutures were leather or hair and wounds were seared with oil or fire before this time.

Or Happy New Year 1842, just 110 years ago. Ether was used for the first time in a surgical procedure. Or 1816 when Laennec invented the stethoscope, or 1757 when James Lind suggested limes as a preventive for deficiency diseases, or back into the darker, drearier years behind with their plagues, their superstitions and their horrors.

But this is 1952. Our freedom is boundless in contrast with much of the world. Our standard of living and life expectancy exceed anything out of the past. And medicine is moving forward ahead of the calendar bringing even greater benefits to humanity. Medicine has experienced an awakening too in the fields of economics and public relations. Service in these areas presents a pioneering challenge that can produce sensational results.

So it will not be an easy year nor a period without trouble, but it provides medicine with the most glorious opportunities ever known. In the hope that everyone will cooperate to make this year outstanding, the Journal wishes each member of the Kansas Medical Society a most Happy New Year 1952.

Our Greatest Resource

A few weeks ago Dr. Franklin D. Murphy, chancellor of the University of Kansas, made a speech on conserving American resources. He presented some thought provoking ideas which are briefly summarized in the following paragraphs for the consideration of the medical profession.

The conservation of America's natural resources has received increasing attention over a period of many years. Considerable benefit has derived from these efforts, as illustrated by the reforesting projects of the lumber industry and others. More recently has water and soil conservation become important, and much improvement along these lines may be expected in the future.

America's greatest resource, however, is its youth, and here the adult population is more apt to criticize than help. Shocking examples of the degeneracy of today's American youth have been aired through the press and over the radio. A few boys accepted bribes for manipulating the outcome of sporting events, and immediately the entire athletic situation in America is condemned. Insufficient credit has been given to the thousands of young athletes who have played fairly and have not accepted bribes. A few of America's youth became addicted to narcotics, and immediately the nation becomes indignant and resentful. A few college students cheat on an examination, and at once the whole system of higher education in America is assailed.

The facts are that these problems are regrettably with us. They are extremely important and no effort is made to minimize the seriousness of such situations. But where did America's youth receive its encouragement in wrongdoing? The charge must, in all fairness, be laid to the responsibility of America's adults. Bribery has long been condoned in government and dismissed with a shrug to the effect that nothing can be done to prevent it. Examples of cheating are placed before the youth of America at every turn. Disobedience of the law, evasion of moral responsibility, those are common among the adults of our country, and even if we ourselves are not guilty of shortcomings in those areas we let it be known that we admire the person who did the wrong. We have tolerated gangsters and terrorists and have brought the high principles of religion into open disregard. Every youthful agnostic has an adult who made him that way. Every dishonest athlete has an adult who made it possible for him to be dishonest. Each child who believes it's smart to evade the law was taught this to be true. Therefore, the adult population today has been utterly careless in the conservation of its greatest resource. The youth of America is proud and strong and has more opportunities than ever before. They needed only one thing to bring success to the coming generation in the many areas where we as adults have failed, and that is encouragement. If we will teach youth the principles they should follow, they will work miracles.

Society Membership

Kansas, with a population of just under two million, receives most of its health protection from members of the Kansas Medical Society. A very few doctors of medicine in this state do not belong for one reason or another and of course play a part in the total health care picture. Cultists of course are also seeing patients, but except for those additions it is the doctors of medicine who are affiliated with this Society upon whom rests the responsibility of preserving health.

As of January 1, 1952, there are 1,712 members, including all categories, in the Kansas Medical Society. If distribution of physicians within Kansas were perfect, if each person in the state sought a member of this Society for his health needs, and if each member were equally active in his profession, each doctor would have a patient list of 1,168 persons.

During 1951, 1,477 members paid dues to this Society. Twenty-three are currently in service, 41 are on leave of absence, and 113 are honorary, all exempt from the payment of dues. In the entire Society only 58 have entered the new year delinquent.

In a recent notice we learn that there are 1,395 members of the Kansas Medical Society who are paid up members of the American Medical Association and that in addition to these, 69 paid dues in 1951 but are in arrears for their 1950 A.M.A. membership. This total represents in excess of 95 per cent of the entire dues-paying membership of this Society and offers a vastly improved picture over the situation of one year ago.

Chicago Clinical Conference

The clinical conference sponsored by the Chicago Medical Society, offering lectures on many aspects of medicine, will be held in the Palmer House, Chicago, March 4-7, 1952.

In response to popular demand, an increased number of demonstrations or work shop periods will be offered. They will include presentation of patients and scientific movies. Lectures will be one-half hour in length, given by outstanding teachers of the medical world on subjects of interest to both general practitioners and specialists. Scientific and technical exhibits will also be presented.

Case Reports from the University of Kansas Medical Center Tumor Conference*

Pre-Cancerous and Cancerous Skin Lesions

Edited by R. E. Stowell, M.D., and D. M. Gibson, M.D.**

The commoner pre-cancerous skin lesions constitute an extremely important group of diseases. These conditions are seen frequently by every general practitioner and specialist, and are lesions that should be adequately treated in the early stage, before they become malignant.

The following seven cases will be discussed under the subject of Keratosis and Radiation Dermatitis, and of Nevi and Melanoma.

Keratosis and Radiation Dermatitis

Case No. 51-101

W. G. V., a 68-year-old white man, was admitted with the chief complaint of prostatism, for which he had a transurethral resection. During his convalescence two small lesions, one on his forehead and one on the right cheek, which he had had for two years, were excised.

Pathology: Grossly the lesions were small grayish-white areas that were slightly elevated above the surface of the surrounding skin. Considerable keratin was seen on the irregular surface. This was a proliferative, pre-malignant lesion, without invasion of the basement membrane.

Diagnosis: Senile keratosis.

Case No. 51-102

E. R., a 62-year-old white woman, was admitted to the hospital because of a large area in the right flank which had been draining for the past six years. Her past history was that of pernicious anemia, for which she had received repeated courses of x-ray therapy during one year 23 years ago. A few years following this, the skin became scarred and thickened, but remained asymptomatic until six years ago, at which time it became irritated, with vesiculation and pruritus. The area, which was approximately 10 x 20 cm., became pigmented and showed an increasing amount of telangiectasis. Two months ago the blistering and exudation became more severe, and several small ulcers developed that did not heal. On hospitalization, a complete excision of this area was carried out, with split skin graft from the right side.

Pathology: Histologically, skin appendages were virtually absent. In some area the rete pegs showed some proliferation.

Diagnosis: Radiation dermatitis.

*Cancer teaching activities aided by a grant from the National Cancer Institute.

**Postdoctoral clinical research fellow of the Damon Runyon Memorial Fund for Cancer Research.

Case No. 51-103

C. W. J., a 75-year-old retired physician, was admitted on the plastic surgery service. The patient had had the fifth finger of the left hand amputated because of x-ray burns which he sustained approximately 35 years ago. On this admission there was evidence of radiation dermatitis over the fingers of both hands, with the appearance of a malignant lesion on the middle finger of the left hand. The left middle finger was amputated just distal to the metacarpophalangeal joint. The entire finger was submitted to the pathology laboratory.

Pathology: Examination of the lesion on the finger revealed changes similar to those seen in the previous case, except that they were more severe. In one area there was sudden transition to a well developed, well differentiated squamous cell carcinoma, which did not extend to the fascia.

Diagnosis: Radiation dermatitis with squamous cell carcinoma.

Discussion

Dr. Robinson: The first condition, senile keratosis, is a common lesion that is particularly prone to occur in those patients who have had exposure to the sun and wind for many years. If the lesions are discrete and easily removable, they should be excised. They should not be treated with a cautery because the cauterization may leave a little of the lesion, which may be a precursor of a carcinoma. Some of these lesions will become malignant, but it usually is not an especially serious matter since the malignancy can be completely removed while in an early stage.

The lesion from the second case shows the changes that take place in the skin with massive or repeated radiation therapy. There is patchy sclerosis and atrophy, pigmentation, papillomatosis, telangiectasis, epilation and anhydrosis. The skin shows alternate patches of white sclerosis intermingled with pigmentation. This is shining, slick white skin that doesn't stretch well and that feels dry; in late stages it may show ulceration and malignant change.

The third lesion, that of the doctor's finger, was a frank malignancy. That lesion was removed locally and a full thickness skin graft applied for coverage. It recurred and the finger had to be amputated. Many pioneer doctors have lost fingers, and some have lost their lives, because of lack of protection from radiation. With the knowledge we

have today, such things should not happen. Many long-standing radiation lesions of the extremities, particularly the kind that have been produced by repeated small doses of irradiation over a long period of time, will become malignant at a later date. Ghormley[1] reported 97 cases, of which about 20 per cent were malignant. Most of these lesions on the fingers have been caused by inadequate care in the use of the fluoroscope or radium needles or the handling of x-ray dental casettes by dentists.

Dr. Tice: Surgical excision is rather radical treatment for keratosis unless there is a question of malignancy. X-ray therapy (600 to 1,000 roentgens) localized to a small area will usually destroy this lesion. Frequently people have multiple keratoses, so that surgical removal of all of them would not be feasible; they may be treated adequately with x-ray applied to each lesion for one and one-half to two minutes. If the patient has a slight keratosis, with flaking of the skin, often the application of castor oil over the lesion every night will soften it.

So far as radiation dermatitis is concerned, if one treats cancer vigorously, one will injure normal skin. The theory of treating cancer is to give a dose large enough to kill the tumor; this will also sometimes destroy normal skin. It should be emphasized that repeated small doses of x-ray over a long period of time may be harmful, as shown by the last case. That doctor had probably not had x-rays on his fingers for over 15 years. He got his x-ray in small doses 20 to 30 years ago, and yet he developed a carcinoma. I don't like to treat cancer of the skin of the hand with x-ray because the tissue is so thin that an adequate dose to the tumor may destroy normal tissue.

Nevi and Melanoma

Case No. 51-104

A. W., a 10-year-old white girl, came to the plastic surgery out-patient clinic with the complaint of a mole on the end of her nose. There had been slight growth since birth. A nevus measuring three by four mm. was excised.

Pathology: The nevus cells were quite irregular in size and in some areas they were pigmented.

Diagnosis: Juvenile nevus.

Case No. 51-105

G. G., a 71-year-old white woman, was admitted on the neurosurgical service. The patient entered the hospital because of trigeminal neuralgia. A pregasserian section was done and, incidental to this operation, the incision was made to include a small black mole over the temporal area, from which sections were taken.

Pathology: The lesion consisted of a dermal mass of intertwining fibrous tissue with pigmented nevus cells scattered throughout. This was a completely benign lesion.

Diagnosis: Blue nevus.

Case No. 51-106

E. A. H., a 43-year-old white man, entered the hospital because of a recurrent pilonidal sinus, which was excised. During the patient's convalescence, a small pigmented nevus was excised from the lateral aspect of the arch of the left foot.

Pathology: The lesion from the foot was small, and there was a wide margin of excision. There were several small nests of nevus cells which tended to be separated and varied in size.

Diagnosis: Malignant melanoma.

Case No. 51-107

I. S., a 38-year-old white woman, entered the hospital on the plastic surgery service with the complaint of a mole of the left upper cheek, of three months' duration. When first noticed it was the size of a match head, smooth, brown and hairless. It began to enlarge rapidly until it became the size of a 10-cent piece, at which time she was advised by her local doctor to have it removed. A diagnosis of malignant melanoma was made on sections, and the patient was referred to this hospital. The line of incision was well healed. Two small nodes could be felt in the neck; however, the submental node and the preauricular node were not palpated. The enlarged nodes were considered probably hyperplastic. After consideration, a wide excision of the primary wound, with skin graft, and excision of the preauricular node were carried out, with a modified neck dissection. The specimen was submitted for pathological study.

Pathology: On the basis of the primary excision at another hospital, this was regarded as a melanoma. The material removed at this hospital revealed no evidence of tumor tissue.

Diagnosis: Malignant melanoma.

Discussion

Dr. Boley: In a dermal nevus the nevus cells are separated everywhere from the overlying epidermis by the connective tissue stroma. These lesions are usually benign. In a junctional nevus the nevus cells are in apposition to the epithelium with no intervening stroma. This type should always be regarded with suspicion, as it is generally believed to be the forerunner of a malignant melanoma. When such a junctional nevus occurs in a child, prior to the age of puberty, it is known as a juvenile nevus. Nevi in children, regardless of the histological picture, are almost universally benign. Spitz[2] reported a series of melanomas in childhood, only one of

which was apparently malignant. This phenomenon is probably linked with the onset of endocrine function at puberty. The term melanoma is reserved for the malignant counterpart of the nevus.

Dr. Helwig: The apparent freedom of prepuberal children from clinical malignant change in nevi is interesting, especially in view of the fact that placental transmission of melanoma from mother to baby sometimes occurs, with death of the infant from the malignant process.

Junctional nevi of the nail bed, hands, feet and genitalia show an extraordinarily high incidence of malignancy as compared to those of other areas, especially when figured on a basis of skin area.

Highly cellular blue nevi occur most frequently on the feet. They occur as subdermal or dermal tumors, which are frequently mistaken for sarcoma because of the variance in nuclear size and shape and the spindleform arrangement of cells. They may form rather bulky tumors at times, and I have known of two amputations for them. In my experience they are all benign.

Dermal nevi are commonly regarded as never becoming malignant;[3] nevertheless, I have seen three cases which metastasized and killed the patient.

Dr. Robinson: Melanoma is a most unpredictable type of tumor. It can be the most rapidly malignant of any tumor, or it may remain quiescent for long periods of time. There is one case recorded in which metastases occurred in the liver 32 years after enucleation for melanoma of the retina.[4]

Moles which are growing, which have been irritated or ulcerated, or which are in certain parts of the body subject to constant daily trauma, should be removed. Moles on the bottom of the foot and those which are shaved over daily can become irritated and should be removed. Most nevi below the knee, about the hands, and certainly those about the belt line or collar line where the clothes rub daily, probably should be removed if they seem to be making any trouble. You can't take off all moles and prevent melanomas. In the case of the little girl, a mole on the end of her nose was removed chiefly for cosmetic reasons. Some moles that look bad had best come off when the child is young because it may not be as safe to take them off when the child is past the age of puberty.

Malignant melanoma metastasizes most frequently by the blood stream, but wide removal of lymphatics is considered to give the patient his best chance for cure. In the last case, we did not radically dissect the neck because the lesion seemed to have been removed; we resected this area locally and covered the defect with a skin graft. I did not do a radical neck dissection; I compromised by taking out the adjacent regional nodes, cleaning out the upper superficial and deep nodes along the carotid. The sternocleidomastoid muscles or all of the deep cervical nodes were not taken out because such a procedure in a woman may cause her considerable psychic trauma, and will give her a shoulder drop and at least a marginal mandibular facial paralysis.

Dr. Helwig: In my experience with melanomas below the elbow and below the knee, I have never seen a popliteal or an epitrochlear metastasis. They have always metastasized to the groin or axilla.

Dr. Robinson: It has been found in large series of melanomas that regional node dissection along with radical removal of the local lesion gives a little better prognosis. The best prognosis is with melanomas of the head and neck; the next best is with those of the upper extremities; in other locations, they almost always recur and metastasize. Daland[5] reports an unusual case of melanoma of the ankle which spread by subcutaneous lymphatics up to the groin so that there were multiple subcutaneous nodules extending from the groin to the thigh. He did a strip operation in continuity and took off the skin from the ankle up to the groin, including the nodes, and that one patient has been alive over 15 years from the time of surgery. Bowers[6] has been doing quarter amputation for melanoma, which seems a little radical.

Dr. Johnson: Pack and others[7] have reported one of the largest available series of malignant melanoma, 862 cases. Of 275 cases treated by surgical methods and observed for five years, the survival rates were 17.7 per cent for localized melanomas and 15.6 per cent for melanomas with regional lymph node metastases. Since these two groups are not standardized either for previous inadequate treatment or for the site of primary tumor, the similarity of the rates is difficult to interpret. It is of interest that one of eight cases, or 12.5 per cent, survived five years, although the primary site in all of these was undetermined. We suspect that the five-year survival rate in malignant melanoma reflects the natural course of the disease rather than an effect of treatment.

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ACTIVITIES OF MEMBERS

Dr. John R. Anderson, of the Topeka State Hospital, was guest speaker at a meeting of the Kiwanis Club in El Dorado last month, addressing the group on mental health.

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Dr. N. C. Nash, Wichita, spoke to the Minisa Chapter, National Secretaries Association, Wichita, at a recent meeting.

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The following Topeka physicians were elected to the board of directors of the Topeka Blood Bank last month: Dr. Orville R. Clark, president; Dr. Robert Pfuetze, secretary; Dr. Louis Cohen, Dr. W. O. Martin, Dr. J. L. Lattimore and Dr. B. J. Ashley.

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Dr. Fred Dozier, Herington, reviewed advances in medicine before the Rotary Club in that city on December 3.

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Dr. Warren S. Peiper, Arkansas City, has made arrangements to be in Sedan on Friday of each week to work with doctors there on problems of radiology.

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Dr. Donald P. Trees, Wichita, spoke on "Practical Medicine Relative to a Dental Practice" at a conference of dental societies held at Emporia in November.

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Dr. E. J. Teeter, Goodland, discussed differential diagnosis of chest diseases before the staff of St. Francis Hospital in Colby on December 4.

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Dr. Thomas Foster, Halstead, was named to the board of directors of the Kansas Mental Hygiene Society at a meeting held in Topeka early in December.

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Dr. Doris Bixby, formerly of Wichita, is now practicing in Waynesville, North Carolina.

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Dr. Norman L. Claybourn, Fort Scott, was speaker at a recent meeting of the Junior Chamber of Commerce in that city and told of the disadvantages of socialized medicine.

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Dr. L. W. Hatton, Salina, was in Great Bend recently to address the P.T.A. there on the subject of sex offenders.

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Dr. C. J. Bliss, Perry, was guest of honor at a community celebration held last month in recognition of more than 30 years community service. Speaker on the occasion was Dr. Milton B. Miller, Topeka.

Dr. Harry L. Church and Dr. C. H. Smith, Pittsburg, presented the program at the November meeting of the Crawford County Medical Assistants' Society.

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Dr. Charles E. Vestle, Humboldt, addressed the registered nurses' study club in Iola on the subject of "Obstetric Analgesia" at the November meeting.

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Dr. William K. Walker was named president of the Cedar Vale Chamber of Commerce last month.

* * *

Dr. Mary Glassen, Phillipsburg, was speaker at a P.T.A. meeting in Colby on December 5.

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Dr. J. S. Hibbard and Dr. W. J. Kiser, Wichita, attended the Pan Pacific Surgical Association Congress in Honolulu in November.

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The following physicians were named to office in the Wyandotte County Academy of General Practice recently: Dr. Ray Busenbark, president; Dr. F. J. Strick, vice president; Dr. Harvey L. Lloyd, secretary; Dr. K. C. Haas, treasurer; Dr. M. R. Fitzpatrick, trustee for one year; Dr. G. P. Neighbor, trustee for two years; Dr. W. C. Rasmussen, trustee for three years.

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Dr. David W. Robinson, of the University of Kansas Medical Center, presented a paper, "Some Observations on Connective Tissue Growth and Tissue Culture in Relation to Keloid Formation," at a meeting of the American College of Surgeons at San Francisco in November.

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Dr. M. D. McComas, Jr., a Concordia Rotarian, spoke to the club there on December 10 on the history of surgery and the qualifications required of today's specialists.

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Dr. Garland L. Campbell has announced his resignation from the staff of the Arkansas City Medical and Surgical Clinic and will enter private practice in surgery and obstetrics in Arkansas City.

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Dr. Orville R. Clark, Topeka, has been named a member of the Committee on Professional Education of the American Cancer Society. The committee will meet in New York in February.

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Dr. Frederick A. Gans, formerly of Abilene, has announced the opening of an office in Salina for the practice of pediatrics. He was graduated from St. Louis University School of Medicine in 1946 and completed his training at the St. Mary's group of hospitals of St. Louis University in 1951.

BOOK REVIEWS

The Specialties in General Practice. Edited by Russell L. Cecil. Published by W. B. Saunders Company, Philadelphia. 818 pages, 470 figures. Price $14.50.

This book fills partially that large void between the general practitioner and the specialist. The editorial staff are all well recognized authorities in their respective fields, and the text is exceedingly readable. It gives the general practitioner a good perspective regarding specialty treatment and diagnosis and tells what the general practitioner can do to alleviate and improve many of the specialty diseases. This book is recommended to all general practitioners.—*W.L.V.*

* * *

Surgical Practice of the Lahey Clinic. By Members of the Staff of the Lahey Clinic, Boston. Published by W. B. Saunders Company, Philadelphia. 1014 pages, 784 illustrations, 509 figures. Price $15.

This volume is published almost 10 years after the first volume discussing surgical practice at the Lahey Clinic. It presents procedures which by frequent repetition have become standardized at that clinic. Consisting of 79 articles about a variety of subjects, (the thyroid gland; the stomach and duodenum; the small intestine, sigmoid and rectum; the biliary tract; the spleen, adrenal gland and pancreas; the breast; the pelvis; bones and joints; the brain, spinal cord and nerves; anesthesia and miscellaneous), it constitutes a valuable reference for the preoperative management, the operative technique, the postoperative care, the diagnosis, and many other important phases of almost every surgical disease.

It is abundantly supplied with numerous charts, photographs and excellent drawings illustrating the various problems. Many of the articles have appeared previously in surgical journals. It has been written by members of the surgical group at the Lahey Clinic. This book will serve as an extremely worth-while reference for anyone dealing with usual surgical procedure and should find a convenient place on any surgeon's bookshelf, or those interested in surgical diseases.—*C.F.K.*

Pulmonary tuberculosis could be wiped out if compulsory cooperation in annual mass chest surveys could be secured, as has been achieved in the Scandinavian countries. Similar dividends are not to be expected from survey procedures in gastrointestinal roentgenography, but pilot experiments are under way, in several institutions, that should clarify the magnitude of the problem and the frequency of unsuspected but curable lesions by routine methods. Mass chest surveys may be of considerable value in the discovery of unrecognized cases of heart disease.—*Merrill C. Sosman, M.D., The New England J. Med., April 12, 1951.*

DEATH NOTICES

John Alfred Dillon, M.D.

Dr. J. A. Dillon, 78, former superintendent of the Larned State Hospital, died at his home in Larned, December 3. He was graduated from the Kansas Medical College in 1893 and later spent a year in postgraduate study in Berlin and London. He began private practice in Larned in 1906, continuing there until he became head of the state hospital in 1927, a position he resigned in 1945. He was an honorary member of the Pawnee County Medical Society.

* * *

Otto Andrew Hennerich, M.D.

Dr. O. A. Hennerich, 66, a member of the Central Kansas Medical Society, died at his home in Hays, December 7. He was a graduate of St. Louis University School of Medicine with the class of 1909 and established practice in Hays in 1913, specializing in eye, ear, nose and throat work. He had been chief of staff of St. Anthony's Hospital and at the time of his death was an active member of the staff of Hadley Memorial Hospital.

* * *

Delbert Otto Haage, M.D.

Dr. D. O. Haage, 47, an active member of the Butler County Medical Society, died December 7 at Wichita after having suffered a cerebral hemorrhage at his home in August. He had been practicing in Augusta since 1935, specializing in pediatrics. He was a graduate of the University of Kansas School of Medicine, class of 1933.

* * *

Ingall Howard Neas, M.D.

Dr. I. H. Neas, 43, an active member of the Wyandotte County Society, died in Kansas City, December 25. He was graduated from the University of Kansas School of Medicine in 1935 and had practiced internal medicine in Kansas City since that time, except during World War II when he served as a lieutenant colonel in the Army medical corps.

BLUE SHIELD

Progress Report on Economy Program

The most significant progress which can be reported on the voluntary economy program of Blue Cross-Blue Shield in Kansas is the fact that the purposes and methods of the program are being enthusiastically accepted by Kansas physicians. Members from the Blue Cross-Blue Shield staff have met so far this winter with over 200 Blue Shield participating physicians in round table discussions. So far not one voice has been raised in complaint of the attempts being made to pursue this voluntary economy program. Actually many physicians are saying that they believe there is some unnecessary hospitalization and use of services in Blue Cross and that this service could be easily eliminated with the cooperation of doctors throughout the state.

The approach being made is based on a report to physicians of the trends in the hospital admission rate here in Kansas as compared with the national average for all Blue Cross plans in the United States. The following factual information reveals that in Kansas Blue Cross members are using hospitals to a considerably greater extent than throughout the country.

Number of Bed Patients Per 1,000 Members

	National Average Rate	*Kansas Rate*
1948	117	133
1949	118	142
1950	121	147

The above table shows that the rate of admission in Kansas is climbing faster than it is in the nation as a whole. The difference between the rate in Kansas and other individual Blue Cross plans is often as great as 40 or 50 cases per 1,000 members. Another significant fact is that while in Kansas the length of stay in the hospital compares favorably with the national average, our length of stay is over one day longer than in Texas and a half day longer than in Oklahoma. The reduction in the Kansas length of stay of only one-half day would mean a saving of nearly $500,000 per year. The information presented above is being frankly discussed with physicians in these round table meetings.

If the number of hospital admissions continues to rise as it has in the past, and if the cost of hospital care goes up with the rising inflation, it is evident that additional changes in Blue Cross benefits or rates will be necessary in 1953. However, physicians have expressed the feeling that an additional increase in Blue Cross rates will again tend to discourage membership on the part of the modest and low income group. This is the very group which needs Blue Cross-Blue Shield benefits the most. Thus we find this enthusiasm and willingness on the part of physicians to cooperate in trying to slow down the rising trend in the use of service. It is not only in the admission rate or the length of stay where these costs are mounting. The use of expensive drugs and laboratory workups is also on the rise. Some physicians have expressed the opinion that some of this use of laboratory and drugs may not be essential in patient treatment.

Blue Cross and Blue Shield stand solidly on the fundamental principle that the individual physician is the only arbiter in the treatment of his patient. Benefits of Blue Cross-Blue Shield have been designed to encourage this freedom of treatment and to avoid contractual limitations which might hamper the physician in his practice. It is the hope of the responsible groups in the Blue Cross-Blue Shield program that this freedom may be maintained through voluntary cooperation. For example, it would be unfortunate if it becomes necessary to eliminate certain worthwhile benefits such as unlimited use of approved drugs, solely because the cost of the service goes beyond the natural limits of normal practice.

If each individual physician will keep these costs in mind and operate on the principle of treating the patient according to his true medical needs, it could be assumed then that the cost would stay within its natural limits. However, the physician must play a responsible part in the explaining to his patients why a reasonable use of service is in the best interest of the entire program.

To summarize: (1) In the first few months of our economy program we have found acceptance and enthusiasm for it by over 200 physicians. (2) The consensus among physicians is that waste does exist and that such waste can be eliminated without interfering with the welfare of patients. (3) It remains now for us to continue to tell the story so that all physicians will become aware of the vital importance of keeping the cost of the voluntary Blue Cross-Blue Shield program within the reach of the low and modest income group. (4) Members of the Blue Shield Relations Committees and officers of county societies are urged to help in arranging for Blue Shield staff members to meet with county societies for a graphic presentation of the problem.

Make reservations now for the 93rd annual meeting of the Kansas Medical Society, April 27-May 1, 1952, Kansas City. Address requests for rooms to Manager, Town House, Kansas City, Kansas.

Senior Thesis from the University of Kansas Medical School*

The Effects of Changes in Serum Potassium Concentration on the Electrocardiogram

Bob B. Andrews, M.D.**

Kansas City, Kansas

Ringer recognized in 1883 that potassium and calcium salts must be present in the fluid perfusing the heart for the proper function of the heart; that too little potassium caused the contractions to become broader and broader until fusion of the beats occurred; and that too much potassium caused imperfect contractions which became weaker and weaker until the heart stopped.

More recently it has been recognized that potassium is the chief cation in the cell, being present normally in concentrations estimated between 140 and 160 mEq. per liter of cell water, and that it is present in the extracellular fluid in concentrations of from 4.0 to 5.5 mEq. per liter. Under abnormal circumstances the amount of potassium in the serum can be either reduced or increased, producing alterations in cardiac function such as Ringer had reported. These abnormalities have been recognized in a number of clinical conditions. In recent years these clinical conditions have received much attention.

Hypopotassemia can be produced by potassium entering the cell, by excretion in the urine, or by loss through body fluids in stools and intestinal secretions. Hypopotassemia has been found in patients with familial periodic paralysis, diabetic acidosis after therapy is begun, vomiting due to intestinal obstruction, postoperatively with prolonged administration of parenteral fluids, inanition, nephrosis with diuresis, and after administration of ACTH or adrenocortical hyperfunction.

Hyperpotassemia, on the other hand, can be produced by absorption through the gut of large amounts of ingested potassium, emergence of potassium from the cells, or blockage of excretion of potassium through the kidneys. Hyperpotassemia is practically confined to patients with renal failure, advanced dehydration, or shock, since normally the kidney will excrete the abnormal amounts of potassium. High serum potassium, however, is known to occur in patients with adrenal insufficiency and in diabetic acidosis before therapy. Potassium intoxication can be produced by parenteral injection of potassium salts, but it is difficult to produce by oral administration except in patients with renal failure, shock or adrenal insufficiency.

With the recognition of the number of clinical conditions in which changes in serum potassium concentration occur and the serious results that can obtain from these changes, it has become necessary to find a practical method for the estimation of potassium levels in the body. Methods for the direct determination of the serum potassium concentration are not always available or practical. However, the electrocardiogram, which is generally readily available to all, offers a method of estimation of potassium concentration in the serum since there are definite changes that occur in the electrocardiograph when either hypopotassemia or hyperpotassemia is present.

Hypopotassemia

Most of the early work on electrocardiographic changes in hypopotassemia was done on patients suffering from familial periodic paralysis. More recently, Bellet et al.[1] attempted to correlate the level of serum potassium and the electrocardiographic changes and to estimate the relation of the etiology to the electrocardiographic changes. These workers observed five distinct patterns of electrocardiographic changes. They are:

1. Depression of the ST segment accompanied by lengthening of the QT interval. The degree varied in general with the degree of hypopotassemia. In the more severe grades, the initial portion of the ST segment resembled an inverted T wave.

2. T wave inversion accompanied by QT prolongation, frequently followed by U waves. T wave inversion was of three types: (a) slight elevation of the initial portion of the ST segment followed by terminal downward dip (resembling that in acute pericarditis with subepicardial myocarditis), (b) the inverted T wave situated below the isoelectric line, and (c) inverted T wave manifested little or no deviation from the isoelectric line and except for prolongation of the QT segment resembled the inverted T wave seen in various types of myocardial diseases.

3. Upright T waves of normal amplitude or slightly above or below. The QT interval was prolonged and the T wave occupied the entire QT segment extending from the beginning of the S wave to the end of the T wave. There was usually no isoelectric period between the S wave and the initial ascent of the T. A few exceptions were seen where there was alkalosis with and without hypocalcemia.

*This is one of 11 senior theses selected for publication by the Editorial Board from a group of 15 judged the best by the faculty of the University of Kansas School of Medicine.

**Thesis written while the author was a senior student at the University of Kansas School of Medicine. Dr. Andrews is now serving his internship at St. Margaret's Hospital, Kansas City, Kansas.

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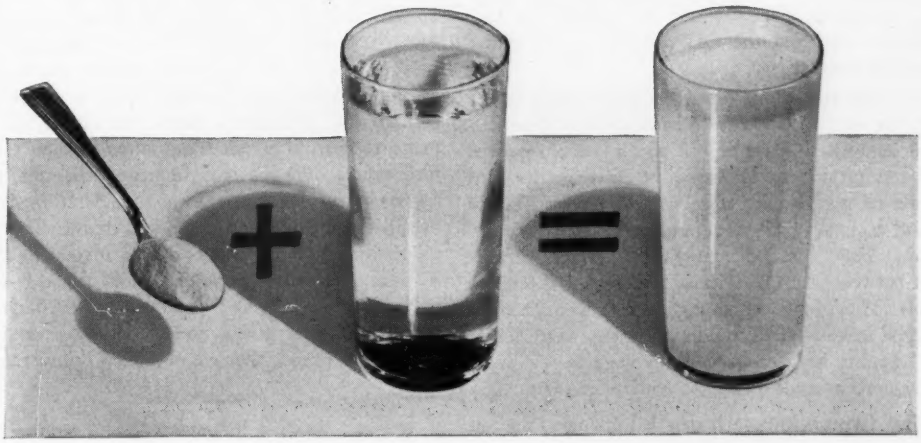

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4. T waves which were almost isoelectric accompanied by a terminal U wave. The end of the QT segment was not clearly demarcated in this pattern and it is probably best to refer to this as a QU wave. Following administration of potassium, the U wave disappeared and the T returned to normal amplitude.

5. T wave of normal amplitude. U wave unduly prominent and followed by a T wave after the downstroke had reached the isoelectric line. The QT interval proper was not prolonged; the prolongation involved the QU interval or the entire electrical systole.

The majority of the cases fell into types 1 and 2. Sixty-six per cent of the cases occurring from diabetic acidosis were of type 2 and had less frequent and less prominent U waves, whereas 53 per cent of the cases occurring from vomiting were of type 1 and had more frequent and more prominent U waves. They did find significant statistical correlation between the QT interval and serum potassium levels. They, however, thought that the differences of type in cases of different etiologies were due to the rapidity and manner of production of hypopotassemia and the effects of other electrolytes.

The division into such detailed changes, though, is not too practical for the average physician in determining the presence of hypopotassemia. In general, when the concentration of potassium in the serum falls below 3.0 mEq. per liter the following changes are likely to develop: slight prolongation of the QT interval in relation to the PT interval; rounded, prolonged T waves; and later decreased height and inversion of the T waves and possibly inversion of the P waves, extrasystoles and auriculoventricular block.

Low serum calcium has also been shown to produce prolongation of the QT interval. In this condition, however, the changes appear to take place with prolongation of the isoelectric level between the R and T waves, while in hypopotassemia there are alterations in the QRS conduction time and in the form of the T waves and RT segment. Martin and Wertman[12] conclude from the study of electrocardiographs in patients with diabetes that there is some factor other than low calcium or potassium that also causes prolongation of the QT interval, so this cannot be relied upon entirely as a diagnostic point in hypopotassemia. However, the T wave changes appear to be rather specific for potassium.

Nadler et al.[14] report that there was S-T segment depression in only 50 per cent of their cases of diabetic acidosis in which the serum potassium level was below normal. They also show S-T segment depression with a fall in blood pressure when serum potassium levels were normal, and it is well known that digitalis produces a depression of the S-T segment, so that, although these latter changes do not look exactly like the ones in hypopotassemia, these factors must be taken into consideration before hypopotassemia can be diagnosed in the electrocardiograph. Digitalis also produces inversion of the T wave, but causes prolongation of the P-R interval and not of the Q-T interval. So, even if digitalis were being given, one could recognize hypopotassemia by lengthening of the Q-T interval.

Hyperpotassemia

Winkler, Hoff and Smith[18] found by the intravenous injection of potassium chloride into dogs that there was first an increase in amplitude of the T wave, usually accompanied by shortening of duration. This became apparent in the dogs at concentrations of 5.0 to 7.8 mEq. per liter and increased progressively until it equaled the QRS complex in amplitude and brevity or until it was obscured by the onset of other changes. At 7.8 or 9.0 mEq. per liter the S-T segment began to sink below the isoelectric line and continued to drop as the concentration increased. The P wave began to widen and lose amplitude at 9.4 to 11.0 mEq. per liter and disappeared as the concentration rose. There was no change in the P-R interval up to the time the P wave disappeared. The QRS complex became wider at concentrations of 10.0 to 12.0 mEq. per liter.

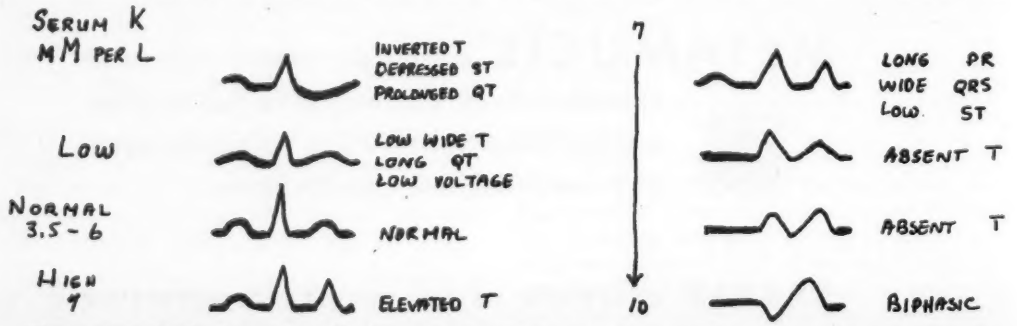

Diagram representing the electrocardiographic changes occurring with changes in the concentration of potassium in serum (from Darrow, New England Journal of Medicine, 242:1015, 1950).

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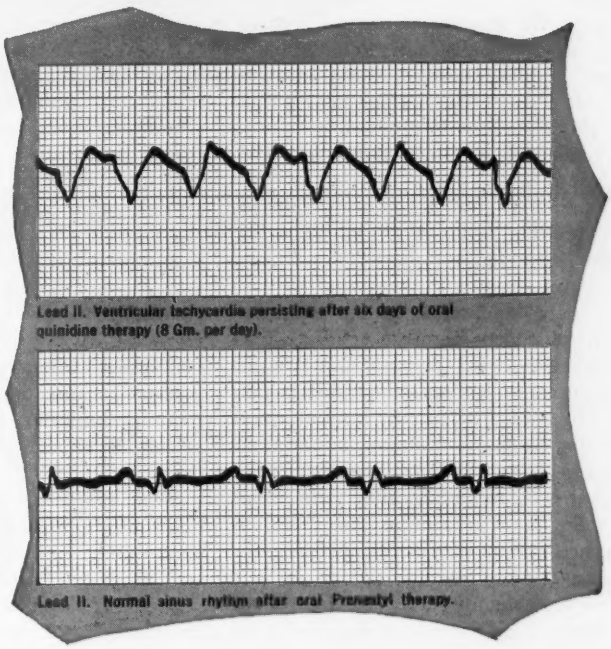

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Death occurred at 14.0 to 16.0 mEq. per liter. These authors concluded that it was the level of serum potassium rather than the rate of injection that determined the toxicity of potassium.

Stewart et al.[15] in reviewing the literature noticed first an increase in the amplitude of the T wave, then a decrease in the amplitude of the R wave with an increase in the amplitude of the S wave. At about 10 mEq. per liter there was disappearance of the P wave and progressive depression of the RS-T segment and widening of the QRS complex, giving a smooth diphasic curve to the QRS-T complex.

Darrow[2] gives the sequence of changes with increasing concentration of potassium in the serum as the appearance of high, peaked T waves, increased duration of the PR interval leading to auricular standstill, biphasic curve with progressive delay in ventricular conduction and total arrhythmia leading to cardiac arrest.

Tarail[17] reported no toxic action below the level of 6.8 mEq. per liter, sometimes from 6.8 to 7.6 mEq. per liter, and regularly above 7.8 mEq. per liter. In this study, peaked T waves were the first sign of potassium intoxication in the electrocardiograph, but subsequent disturbances in the QRS complex, P-R interval, S-T segment and P waves occurred concurrently. His series consisted of only 19 patients with renal insufficiency, four of whom showed electrocardiographic effects of hyperpotassemia. It is generally considered that these effects begin to appear as the serum potassium level reaches 6.5 to 7.8 mEq. per liter and are quite regularly present at concentrations of 8.0 mEq. per liter and above. Heart block and irregular rhythm occur at 10 mEq. per liter or slightly above. The main effects are peaked T waves and increase in duration of the QRS complex.

Although increase in the severity of the electrocardiographic disturbance in a given patient can be said to be due to increase in concentration of serum potassium, the appearance of the electrocardiograph at a given elevated concentration of serum potassium differs considerably from case to case. So the electrocardiogram can be used as a rough indication as to proper therapy, but it cannot be depended upon as a substitute for serum potassium measurements.

Potassium Therapy

When the abnormality in the level of serum potassium is discovered, even though the exact mechanism leading to the alteration is not entirely clear, the proper steps to attain normal levels is an advantageous and many times a life-saving procedure.

If a patient can consume a regular diet, one usually need not worry about hypopotassemia because the average diet contains 90-125 mEq. of potassium per day. However, many of the patients in whom hypopotassemia develops are not able to take a normal diet so that other means for giving potassium must be sought. Oral administration is desirable if possible. Solutions of potassium chloride in concentration of 40 to 80 mEq. of potassium per liter (three to six gms. potassium chloride) given in 50 to 100 cc. amounts have proved efficacious. Fruit juices or other carries may be used if desired.

Concentrated meat broths have been shown by Howard and Carey[10] to contain as much as 1,000 or more mEq. of potassium per liter so that even small amounts of these could supply large amounts of potassium.

If oral administration is precluded by gastrointestinal dysfunction, or in emergency situations, parenteral administration must be used. In intravenous administration, care must be used in the concentration of potassium in the administered fluid and in the rate of injection so that high potassium levels are not reached suddenly. For this reason Darrow[2] recommends that solutions injected intravenously should not contain over 20 mEq. per liter in potassium concentration. Here the electrocardiogram can be used for quick estimates of potassium levels. Howard[10] has also shown that it takes several days for recovery from potassium deficit in debilitated patients so that potassium administration should continue for about six days or until food can be taken. Use of the electrocardiogram as a guide is desirable.

Since hyperpotassemia frequently occurs in patients with renal disease, administration of potassium in such patients should be used with extreme caution if not avoided entirely.

Should potassium intoxication occur, prompt treatment is necessary to prevent cardiac arrest. Calcium has been used to give transient increase in cardiac rate in patients with auricular standstill with ventricular rhythm. Finch et al.[5] have corrected potassium intoxication in patients in renal failure by use of three per cent saline solution. It has also been shown that deposition of glycogen is accompanied by a transfer of potassium into the cells, and hypertonic glucose intravenously has been used successfully to promote glycogen deposition and reduction of serum potassium level.

Summary

1. The chief electrocardiographic changes resulting from hypopotassemia are prolongation of the QT interval, prolongation and inversion of the T wave and possibly inversion of the P waves, extra systoles, and auriculoventricular block. Hypocalcemia may also produce prolongation of QT interval, but the T wave changes are rather specific for potassium.

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2. The chief electrocardiographic changes resulting from hyperpotassemia are high peaked T waves, depression of the S-T segment, disappearance of the P wave, depression of the RS-T segment, giving a smooth biphasic curve to the QRS-T complex. At a given level of serum potassium, the appearance of the electrocardiograph may vary from patient to patient, but it may be used as a rough estimation of potassium level.

3. A few aspects of therapy are mentioned, and use of the electrocardiogram as a guide to therapy is advocated.

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Tuberculosis Death Rate Dropping

The nation's death rate from tuberculosis dropped about nine per cent in 1949, to 26.2 per 100,000 population, according to a recent release from the Federal Security Agency. During the first 11 months of 1950, a further decline of 15 per cent occurred, although the latter figure is provisional and may require revision when the 12th month of the year is included. The death rate in the United States has shown a downward trend for almost 50 years, except for a slight rise in 1917 and 1918, during the influenza epidemic of World War I.

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COUNTY SOCIETIES

Dr. John D. McMillion was elected president of the Montgomery County Society at a meeting held at the Booth Hotel, Independence, early in December. Other officers chosen are: Dr. W. F. Dreyer, vice president; Dr. William T. Read, secretary; Dr. G. C. Bates, treasurer.

* * *

The following officers were chosen to head the Barton County Society at a meeting held December 4: president, Dr. M. W. Carlson, Ellinwood; vice president, Dr. T. J. Brown; secretary-treasurer, Dr. A. W. Beahm; delegate to state society, Dr. Robert C. Polson; alternate, Dr. L. R. McGill; board of censors, Dr. James Gaume, Dr. Don Kendall and Dr. E. H. Atkin.

* * *

Two members of the faculty of the University of Kansas School of Medicine presented the scientific program at a meeting of the Sedgwick County Society held at the Allis Hotel, Wichita, December 4. Dr. William Williamson spoke on "Differential Diagnosis of Surgical and Non-Surgical Diseases of the Spinal Cord," and Dr. E. Grey Dimond discussed "Cardiac Catheterization and its Application in Medical Diagnosis."

* * *

Dr. Byron Ashley was named president of the Shawnee County Society at a meeting held at the Hotel Jayhawk, Topeka, December 4, and Dr. Harry J. Davis was chosen to serve as president-elect. Dr. Francis Collins is vice president, Dr. D. B. Foster is secretary, and Dr. Willis L. Beller is treasurer. A guest, Mr. W. Van Murchie of St. Joseph, Missouri, spoke on "Organized Chaos versus Regimented Confusion."

* * *

Members of the Crawford County Society entertained the Auxiliary at a dinner meeting at Pittsburg on November 29. The scientific program, "Diseases of the Colon," was presented by three guests from Wichita, Dr. N. C. Nash, Dr. B. E. Stoffer and Dr. E. L. Mills. The following officers were elected: president, Dr. Paul Leffler; vice president, Dr. Howard Elliott; secretary-treasurer, Dr. Earl Miller.

* * *

The Nemaha County Society held a joint meeting with the Auxiliary on November 27 at the Community House in Seneca. A buffet dinner was served. Dr. Paul C. Laybourne, of the University of Kansas Medical Center, was guest speaker.

* * *

Members of the McPherson County Auxiliary

Meat... Its Place in the Dietary Management of Nephritis

The formerly held tenet that protein intake should be restricted for all patients with impaired renal function, in order to afford the kidney physiologic "rest," is no longer valid.[1] Except for infection and some neoplastic and traumatic disorders, the treatment of renal disease is nonspecific and essentially symptomatic. The clinical problem centers largely on diet regulation, in the hope of stimulating the kidneys to improve impaired function, without unduly risking harm.

Even in the presence of azotemia, a protein intake of 60 to 80 Gm. per day has not been found harmful to the renal patient. Low protein intake, on the other hand, together with urinary loss of protein may encourage the development of asthenia, anemia, hypoproteinemia, and edema.[2] Also pertinent to the dietary management in renal disease is the experimental finding that high protein diets in normal dogs promote higher urea clearance and greater renal blood flow than do low protein diets.[3,4]

Except in anuria, a protein intake adequate to maintain nitrogen balance has been suggested.[1] Although as little as 30 to 40 Gm. of protein per day may suffice for this purpose in the fever-free patient at bed rest, few occasions arise when 1 Gm. of protein per day per kilogram of body weight may not be given safely. In the presence of significant proteinuria, unless specifically contraindicated, the dietary protein may be increased beyond that amount in order to counterbalance the urinary protein loss.

Contrary to the still prevalent ancient belief among the laity, red meats are just as harmless to the renal patient as white meats; nor is there evidence that plant proteins are more beneficial in nephritis than animal proteins. As with the normal person, the dietary protein of the patient should be of high biologic value.

Meat, because of its high content of biologically complete protein, may contribute valuably to the protein needs of the nephritic patient. The nutritional importance of meat, however, is not limited to its contained protein. Meat also contributes highly significant amounts of iron and of the vitamin B complex, including niacin, pantothenic acid, pyridoxine, riboflavin, thiamine, and the newly discovered vitamin B_{12}. Other salient features of meat in the dietary of the patient are its high palatability, its stimulation of the digestive processes, its satiety value, and its easy and practically complete digestibility.

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Main Office, Chicago... Members Throughout the United States

were guests of the medical society at a dinner meeting in Lindsborg on November 29. A male quartet from Bethany College provided the program for the evening.

Officers of the society were elected at a meeting held December 12, and the following were chosen: president, Dr. E. C. Brandsted; vice president, Dr. G. E. Finkle; treasurer, Dr. Robert Sohlberg; secretary, Dr. A. H. Dyck; delegate, Dr. Weir Pierson; alternate, Dr. W. R. Jones; censors, Dr. C. R. Lytle, Dr. W. R. Jones and Dr. A. M. Lohrentz.

* * *

Dr. Melvin A. Rabe was elected president of the Leavenworth County Society at a meeting held on December 10. Dr. C. A. Bennett was named vice president, and Dr. V. A. Christ was chosen as secretary.

* * *

Dr. and Mrs. L. G. Graves entertained members of the Stafford County Society and Auxiliary at a covered dish dinner at their home in St. John on December 11.

* * *

New officers of the Clay County Society, who will serve also as officers of the Clay Center Municipal Hospital, are: president, Dr. F. C. Shepard; vice president, Dr. F. D. Taylor; secretary-treasurer, Dr. Guy B. McIlvain.

* * *

A meeting of the Pratt County Society was held at the Hotel Roberts, Pratt, last month following a Christmas dinner. Dr. M. E. Christmann was elected president of the group with Dr. F. G. Freeman as vice president and Dr. R. W. Edwards as secretary-treasurer. A film on the University of Kansas Medical Center, "Beyond the Towers," was shown.

* * *

The Harvey County Society met December 10 at the Newton Country Club for a dinner and election of officers. Dr. W. C. Dreese, Halstead, was named president; Dr. J. B. Nanninga, vice president; Dr. A. S. Hawkey, secretary-treasurer; Dr. John W. Hertzler, censor.

* * *

Eighty members of the medical societies and auxiliaries of a tri-county area including Sumner, Cowley and Kay counties, were present at a meeting held at the VFW Memorial Building in Arkansas City on December 13. Speaker for the evening was Mr. Virgil Hill of Topeka, who was introduced by Dr. G. Allen Howell, Wellington.

Officers of the Cowley County Society were elected at a separate session held later in the evening. Dr. H. H. Jones, Jr., Winfield, was chosen president; Dr. Roscoe F. Morton, Arkansas City, vice president; Dr. A. Y. Wells, Winfield, secretary; Dr. E. W. Hellweg, Arkansas City, board of censors.

* * *

The Bourbon County Society and the Mercy Hospital staff held a joint meeting at the Burke Street Hospital, Fort Scott, December 19. A medical movie was shown.

* * *

Dr. Edward J. Grosdidier was elected president of the Wyandotte County Society at a meeting held December 18. Other officers are: Dr. W. F. Roth, Jr., vice president; Dr. G. R. Peters, secretary; Dr. E. A. Reeves, treasurer; Dr. F. J. Nash, censor; Dr Agnes Robbins, Dr. Emmerich Schulte and Dr. Wray Enders, delegates.

Sectional Meeting of A.C.S.

A sectional meeting of the American College of Surgeons will be held at the Hotel Adolphus, Dallas, Texas, February 4, 5, and 6. Kansas physicians are invited to attend.

The program will include two days of scientific sessions at the hotel and a day of teaching clinics and demonstrations in Dallas hospitals. New surgical motion pictures will be shown, including several which were prepared especially for the Cine Clinics at the 1951 clinical congress and a stereoscopic colored film on radical resection for carcinoma of the stomach which is attracting national attention.

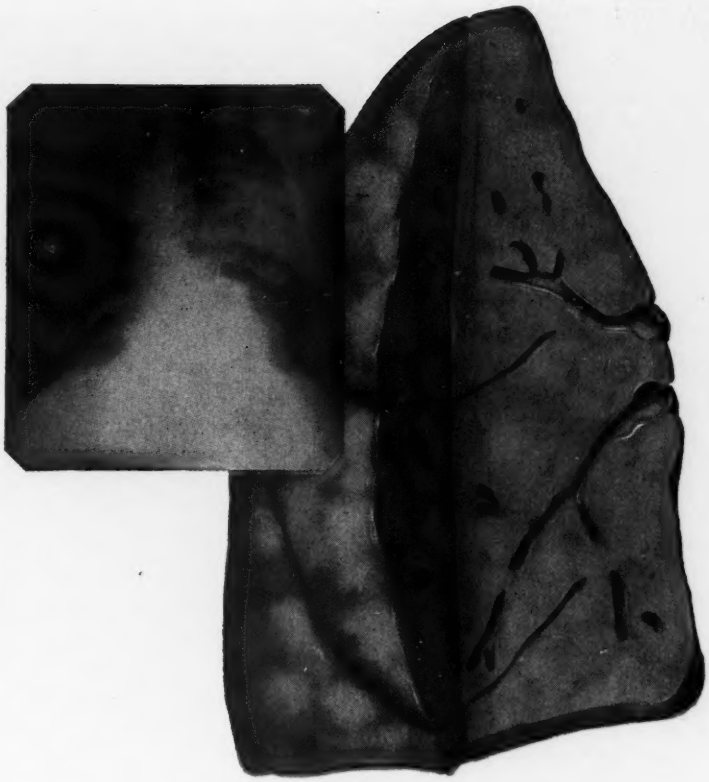
Hotel accommodations may be obtained by writing Mr. James R. Shaffer, Hotel Adolphus.

Economy Governs Socialization

The economic condition of the countries of Europe will determine whether socialization of medical care abroad will increase or decrease in the next few years, reported Dr. Austin Smith, editor of the Journal of the American Medical Association, on his return from a recent European trip.

"The degree of the socialization of medical care varies country by country," he said, "and the response to it varies in accordance with the occupational interest and the economic status of the individuals. England has a greater degree of socialized medicine than any other country and its system, while it may be modified from time to time so that the people may pay more for what they get, will not be cast out by the present Conservative government or by any other government so long as the country has or gets the money to pay its huge cost."

Dr. Smith reported European respect for the American people and for American industry, but little regard for our government, its representatives and our policies.



in bronchopneumonia: Clinical responses in bronchopneumonia, Terramycin-treated, are characterized by the same promptness noted in primary atypical and lobar pneumonia. In a series of 31 cases there was "a good response in all cases, as manifested by the fall of temperature to normal in 24 to 48 hours, and by the improved clinical appearance of the patient." Follow-up x-rays made in 10 to 14 days "were completely negative or showed marked improvement."

Potterfield, T. G., and Starkweather, G. A.: J. Philadelphia General Hosp. 2:6 (Jan.) 1951.

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THE KANSAS PRESS LOOKS AT MEDICINE

Editor's Note. In this section the Journal reproduces editorials relating to medicine which have appeared in the lay press. An effort is made to include both favorable and unfavorable comments, and the Editorial Board in no instance assumes responsibility for the opinions expressed.

Here He Goes Again

In spite of the fact that this government is exerting every effort toward an adequate military defense and is raising taxes on everybody and looking for more sources of revenue, President Truman takes time out from these necessary duties to insist that this is the time to put socialized medicine into effect, a pet project which he has advocated since 1945. President Truman says if anyone can show him a better way to protect the health of the people he will gladly go along with it.

If President Truman is competent to advise the country on health measures, he knows that right at this time there are about 70 million people, nearly half our population, who are covered by satisfactory, efficient and cheap prepaid health and hospital insurance, all of which would have to be scrapped if he has his way. It is cheap and it is voluntary, compared to the compulsory plan proposed by Mr. Truman. The most generous interpretation of socialized medicine would not refer to it as insurance. Insurance is paid voluntarily. Socialized medicine is not insurance, it is a tax and a deduction will be made from every pay check, in addition to deductions already made.

The proponents of this socialized scheme advance the specious theory that if one believes in a free public school system, one should not object to "free medicine" controlled and paid for by the government. There is considerable difference between a public school system to give every individual a chance for mental equipment with which to earn a living and care for himself, and furnishing that individual, at state expense, the various necessities and luxuries of life.

"Cradle to the grave security" sounds appealing, but a nation which accepts this plan sells its independence and admits that its people cannot care for themselves. The American medical system is the wonder of the world. We have more doctors per capita than any other nation in the world except Israel, which is now filled with refugee doctors driven from other lands. This American system is the result of enterprise and initiative of American doctors, who over a long period have determined to make American medicine supreme. Why should we in this country ever consider scrapping the greatest medical system in the world to copy experiments of nations which cannot match ours in medical progress?

The main importance of socialized medicine is that it is not a thing complete in itself, but part of the camouflaged attempts to give the government either ownership or absolute control over the people's resources and the people as individuals. According to classic Communist dogma, socialized medicine is one of the most important in that direction. If it cannot be achieved all at once, an attempt is made to bring it on by degrees. One form is to authorize federal handouts to medical schools. Another would make the government responsible for the medical care of persons within certain ages, anything to get a start. It is a fine example of what has been aptly called creeping socialism.

The American people are going to have to determine whether they wish to have their medical care administered with another immense federal bureau, with all its entangling red tape, or continue the gradual evolution in the distribution of high quality medical service under the present system.—*F. J. C. in Kingman Journal.*

* * *

An Undermining Process Rather Than Curing All Ills

The British medical fraternity is a version of socialized medicine. Various reasons are behind this. One of the most important is that, under a policy of cradle-to-the-grave alleged security, there has been an alarming decline in the sense of family responsibility and individual duty. Young people who can afford it no longer help aged and sick relatives —they just let the state do it all.

Another reason, reliable reports from England say, is that this attitude of mind has also spread to many doctors. The civil servants give all the orders, and there's nothing much for the doctors to do but go through the motions of practice in a purely routine fashion. There are no incentives to work hard, to experiment, and to seek new horizons of medical knowledge.

It is inevitable that such a situation should exist under socialism. It is an undermining process—for the doctor and for all others who are enmeshed in the dreary system. And what is true in England would surely be true here if we should ever adopt the Administration's compulsory health insurance scheme, along with the kindred independence-destroying measures which are proposed.

A so-called "clinching" argument for such schemes is that poor people can't get decent medical care. That is very largely untrue—under private medicine, splendid progress has been made in providing

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Norcross, B. M., *N. Y. State J. Med.* 51: 2356, Oct. 15, 1951.

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Early Diagnosis of Uterine Cancer

The possibility of discovering cancer of the uterine cervix and starting treatment five to seven years before typical symptoms appear has been demonstrated in clinical studies made by Dr. Rodney B. Nelson and Dr. Albert W. Hilberg of the Public Health Service.

In examining a group of 3,224 women, average age 45.6 years, the physicians assembled data which suggested that "the majority of cervical malignancies existing in a group of female patients are present in an asymptomatic, localized form for a minimum of five to seven years before the symptoms and clinical appearance of cancer become apparent." The cytologic test and the biopsy were employed.

It was found that there was an interval of three years between the mean age of patients with cancer of the cervix which had not invaded the uterus proper and those with early infiltrative cases, and approximately seven years between preinvasive and advanced cases.

Defense Against Epidemic Disease

The nation's defenses against outbreaks of epidemic disease were strengthened recently by the establishment of an Epidemic Intelligence Service in the Public Health Service. Twenty-one physicians who have completed an intensive eight-week training course have been assigned to stations in 12 states. Dr. Harold M. Nitowsky, formerly of Denver, and Dr. J. Thomas Grayston, formerly of Chicago, have been assigned to the CDC Field Station in Kansas City.

The primary job of the service will be to render assistance in investigating disease outbreaks beyond the resources of state and local health departments to control. In time of war, if an enemy sought to employ biological warfare, the service would be invaluable.

Army Tests Drug for Malaria

Tests of a new drug, primaquine, which holds promise as a cure for malaria, are being made by the Army. Although indications are that the drug will be more effective than any now in use, further research will be necessary to determine whether it will prove as effective against the strain of malaria found in Korea.

Initial work with the drug, conducted among prisoner volunteers at the penitentiary at Joliet, Illinois, in cooperation with the University of Chicago, revealed a high percentage of cures among malaria cases with no subsequent relapses. After later tests by the Army in Nicaragua, experimental programs were established at two Army hospitals in the United States to determine the effectiveness of primaquine among returned Korean patients. Early results have been favorable, but continued observation is necessary.

If further tests are satisfactory, primaquine will augment existing drugs used in the treatment of malaria, and it may be administered routinely to all persons returning from malarious regions.

Grant for Heart Study

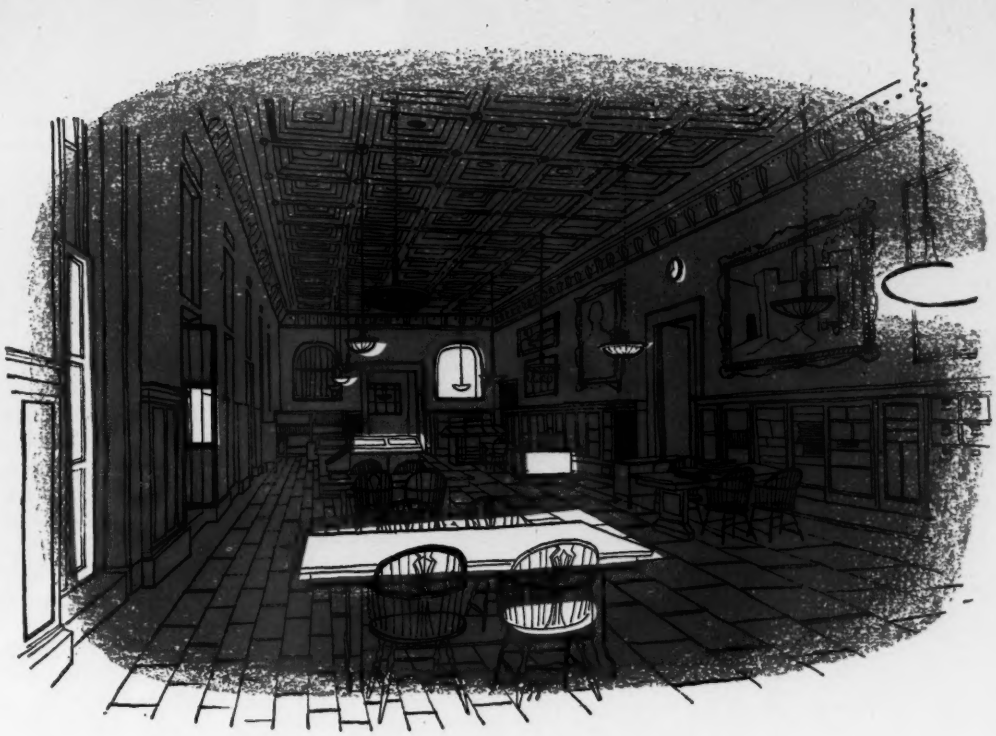
The sum of $3,000 was given to the University of Kansas Endowment Association recently by Henry J. Haskell, editor of the Kansas City Star, for research in heart disease. This is the second gift for this purpose from Mr. Haskell, who gave $10,000 in 1948.

"Now, medicine does serve the state, and, as a consequence, the state has very real claims on the profession. However, the nature, or rather, the manner of those claims must be gauged from the manner of the service. The profession serves the state by indirection; it promotes the common good indirectly, save in the case of specialized problems of a specific kind. The direct service of the profession is to the individual, to the person, and in the scheme of things still ours by lip service at least, the individual person is accounted a free man. . . .

"In a word, the art of healing serves directly and principally the person, not the state, and thus indirectly it builds up, as do all other arts, that common good which is the state's legitimate concern—a common good which the state itself destroys, however, the more it de-personalizes it, the more that good becomes 'collectivized.'

"The 'common good' is not the same as a 'collective good.' It is one thing for me to hold certain benefits in common with you. It is quite another for you and I to be the beneficiaries of a 'collective benefit' which is neither yours nor mine. . . .

"In an age of Socialism and Collectivism, such as ours tends to be, there is need, I repeat, for great vigilance if you are to keep the profession free."—Bishop John J. Wright before the Conference of Presidents and Other Officers of State Medical Associations, June 10, 1951.



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ABSTRACTS FROM CURRENT LITERATURE

Medical Management of Hypertension

Medical Management of Hypertension. By Departments of Pharmacology and Medicine, Cornell Conference on Therapy, N. Y. St. Jnl. Med., Nov. 1, 1950.

Dr. Harry Gold presided at this conference and introduced the senior participant, Dr. William Goldring, "who has for many years pursued this subject as a clinician and investigator." Dr. Goldring made the following statement: "1. The cause of hypertension is not known. 2. There is no cure. 3. The management of the disease at present involves the use of measures that are essentially empiric. These have three objectives: 1. To reduce the level of the blood pressure; 2. to alleviate symptoms; 3. to eliminate one or another of the supposed causes.

"It is probable that no one would doubt the desirability of eliminating the cause, if the cause were known. Control of distressing symptoms is worthy of therapy. The position is not quite clear in the matter of lowering blood pressure. Arteriolar disease is the factor which ultimately brings disability and death, and to prevent or retard its development would be sound therapy, but no such measures are known! To approach this by lowering blood pressure involves an assumption concerning causal relation between high blood pressure and arteriolar disease and this is without sufficient proof. There is neither proof that lowering blood pressure decreases vascular accidents nor that persistent elevated pressure increases the incidence."

He reviewed an extensive experience with thiocyanate therapy and cited serious dangers. Blood pressure lowering was reported in one-third of the patients, but due to unpredictable dangers, he does not recommend the drug. Continuous mild sedation and reduction of body weight, sodium restriction, the rice diet, kidney extracts, foreign protein, tyrosinase, Vitamin A and other measures to reduce blood pressure are discussed and branded ineffectual. Therapy designed to alleviate distressing symptoms was labeled useful and psychotherapy is the most valuable measure. At present, hypertension is not curable except for the rare case of pheochromocytoma and the very rare instance of unilateral renal disease. Dr. Goldring admits that his attitude is pessimistic. Subsequent questions and discussions included remarks by Dr. Harold Stewart, H. E. B. Pardee, Walter Modell, Harry Gold, and guests. Rutin, Vitamin C, tetraethyl ammomin, slow and fast acting nitrites, dibenamine, bed rest, dehydration, mercurial diuretics, and special diets were discussed. The conference failed to indicate that any therapy is really dependable or without a challenge.—*P.W.M.*

* * *

Q-T Prolongation in the Electrocardiogram

Significance of Q-T Prolongation in the Electrocardiogram Based on the Study of 168 Cases. By Samuel Bellet, David Finkelstein, Am. Jnl. Med. Sci., 222:3, 263-278, Sept., 1951.

The authors working in the Philadelphia General Hospital and the Robinette Foundation of the University of Pennsylvania utilized records acquired on 168 patients. Electrocardiograms on each patient exhibited Q-T prolongations 20 per cent above the normal as calculated by Bazett's formula. Measurements were made in whichever lead the termination of T was most clearly seen and where the Q-T interval was longest. The authors thus used CR2, 3, 4 most frequently. Determination of serum electrolyte values as well as other data was available on each case. They emphasized that although the EKG is a help in raising a suspicion of the cause of the Q-T segment prolongation, the final diagnosis can be established only by the history and the clinical and chemical findings.

The cases studied were found to represent five general categories and a sixth group had to be labeled unknown etiology. Each named clinical category included several subdivisions or entities.

1. Electrolyte disturbances included three major subheads: hypocalcemia, hypopotassemia and combinations of these two.

2. Myocardial abnormalities and/or disease included hypertensive cardiovascular disease, myocarditis of several varieties and myxedema.

3. Conditions associated with myocardial anoxia included six major sub-groups.

4. Combined factors included hypoglycemia and avitaminosis.

5. Under the heading of drugs, many observers have noted that Q-T prolongation is an early sign of quinidine action and parallels rather closely the drug's effect.

6. Unknown etiology can be assumed only after it is established that the patient has not lost fluids through vomiting or diarrhea, or suffers inanition, or has received parenteral administration of fluids without oral feeding, or has received adrenocortical extracts, or has had treatment of diabetic acidosis, since each of these can be responsible for hypopotassemia. Hypocalcemia may be the result of: 1. post thyroidectomy; 2. idiopathic hypoparathyroidism; 3. uremia; 4. in association with alkalosis accompanying vomiting states. Conditions associated with myocardial anoxia in this series were myo-

prolonged anticoagulant action—yet . . .

"At no time in any of the patients was there evidence of hemorrhagic manifestations, either systemic or at the site of injection . . . and no sensitivity reaction . . . followed administration of Depo-Heparin."[1]

"Twenty patients were given Depo-Heparin as a postoperative prophylactic measure, while in six it was administered therapeutically for either thrombophlebitis or coronary thrombosis."[1] A single deep subcutaneous injection of 200 mg. of Depo-Heparin "resulted in effective anticoagulant action," achieving "a satisfactory elevation of the clotting time for a period of twenty-one hours for the average patient response."[1] The necessary coagulation time determinations were routinely performed during therapy.

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1. Moss, Henry N., and D'Alessandro, Domenic R.: The intensity and duration of the effect of Depo-Heparin on venous coagulation time in man. Am. Practitioner & Dig. of Treatment 2:309 (April, 1951)

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cardial infarction, arteriosclerotic heart disease, pulmonary infarction, emergence from Adams Stokes attack, gas poisoning, and the dying heart.

The article merits study and is timely since recently Q-T prolongation has been mentioned principally in rheumatic carditis and its other causes deserve emphasis.

* * *

Prolonged Cardiac Arrest

Recovery from Prolonged Cardiac Arrest. By Harry S. Ivory and Harvey Rinzler, Am. Jnl. Surg., 82:2, 256-259, Aug., 1951.

The authors briefly review the history of treatment for cardiac arrest and favor the transthoracic approach for cardiac massage. They feel that intermittent compression of the heart by the surgeon's hand introduced through the abdomen and pressing upward against the intact diaphragm is also valuable and less apt to produce ventricular fibrillation.

They report a case of cardiac arrest in a 25-year-old white female undergoing pelvic laparotomy for a right ovarian cyst. Some delay was occasioned by ineffectual use of intra-cardiac stimulants. Transthoracic cardiac massage was started 11 minutes after cardiac arrest. Five minutes later spontaneous heart contractions appeared, and in another five minutes spontaneous respiration began, replacing the artificial respiration that had been employed.

During the next four days the patient was treated for cardiac decompensation, shock, postoperative abdominal distention, and respiratory distress. She remained comatose for these four days, and then began to respond. Numerous neurological changes were noted, most of which improved gradually over the next several weeks.

Her cerebral recovery was slow, and 22 days after the operation glutamic acid, five grams daily, was started and the patient appeared to show prompt improvement in motor coordination. Speech returned, haltingly, after the 27th day. Fifty-two days after surgery she went home with essentially negative neurological findings, except for persistent tremor of the hands.

The authors feel that glutamic acid aided mental and physical recovery.—*T.P.B.*

A new fourth edition of Standard Nomenclature of Diseases and Operations has been published by the Blakiston Company, Philadelphia, and is being made available to hospitals this month through the American Medical Association. Work on the new edition was started three years ago. More than 70 per cent of hospitals in this country have adopted the standard plan for diagnostic coding of hospital records.

AMERICAN BOARD EXAMINATIONS

Anesthesiology. Sec., Dr. Curtiss B. Hickcox, 80 Seymour St., Hartford 15, Conn. Various locations, July 18.

Dermatology and Syphilology. Sec., Dr. George M. Lewis, 66 East 66th St., New York 21. Written, Chicago, March 1952. Oral, Chicago, May, 1952.

Internal Medicine. Sec., Dr. William A. Werrell, 1 West Main Street, Madison 3.

Obstetrics and Gynecology. Sec., Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6. Oral, Chicago, June 7-13, 1952. Final date for filing, Feb. 1, 1952.

Ophthalmology. Sec. Dr. Ewin B. Dunphy, 56 Ivie Road, Cape Cottage, Maine. Written, Feb. 4-5, 1952, 25 centers. Oral, Oct. 8-13, Chicago.

Otolaryngology. Sec., Dr. Dean M. Lierle, University Hospital, Iowa City. Oral, Chicago, Oct. 8-12.

Pathology. Sec., Dr. Robert A. Moore, 1402 S. Grand Blvd., St. Louis.

Pediatrics. Sec., Dr. John McK. Mitchell, 6 Cushman Road, Rosemont, Pa. Written, under local monitors, Jan. 11. Oral, various locations.

Physical Medicine and Rehabilitation. Sec., Dr. Robert L. Bennett, 30 N. Michigan Ave., Chicago. Parts I and II, Chicago, June 9-10.

Plastic Surgery. Office of the Board, 4647 Pershing Ave., St. Louis 8.

Preventive Medicine and Public Health. Sec. Dr. Ernest L. Stebbins, 615 N. Wolfe St., Baltimore.

Proctology. Sec., Dr. Louis A. Buie, 102-110 Second Ave., S.W., Rochester, Minn.

Psychiatry and Neurology. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

Radiology. Sec., Dr. B. R. Kirklin, 102-110 Second Ave., S.W., Rochester, Minn.

Surgery. Sec., Dr. J. Stewart Rodman, 225 South 15th St., Philadelphia. Written, various centers, March, 1952.

Thoracic Surgery. Sec., Dr. William M. Tuttle, 1151 Taylor Ave., Detroit.

Urology. Sec., Dr. Harry Culver, 30 Westwood Road, Minneapolis 16. Chicago, Feb. 9-13, 1952.

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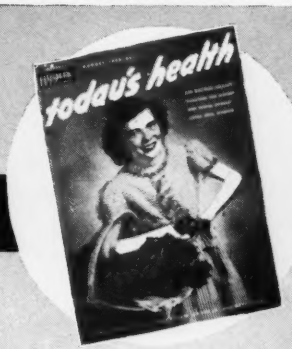

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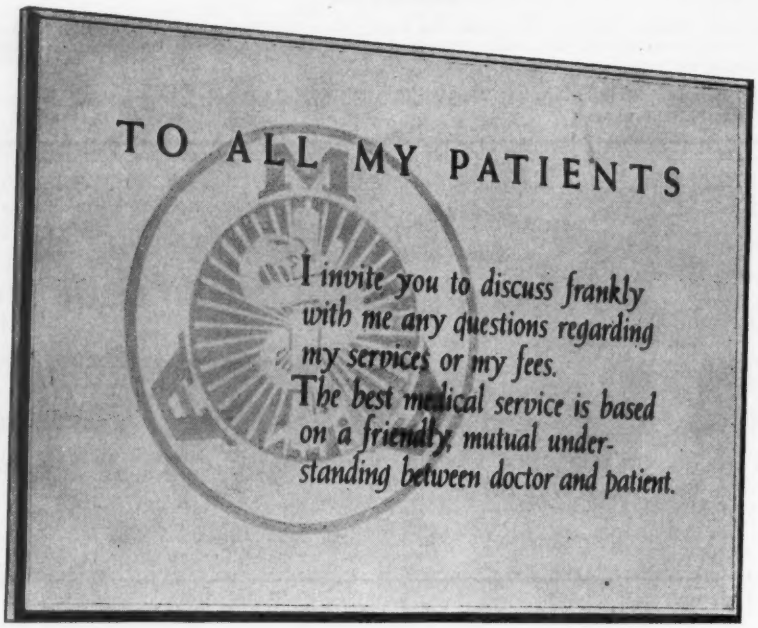
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Gallbladder Surgery, Ten Hours, starting April 21.
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Esophageal Surgery, One Week, starting June 23.
Breast and Thyroid Surgery, One Week, starting June 23.
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Motion Picture List Revised

A list of "Sources of Motion Pictures on Health" has been revised and is now being issued by the Committee on Medical Motion Pictures of the American Medical Association, 535 North Dearborn Street, Chicago. The list includes nine pages of addresses of the major loan and rental libraries, the state health departments' film libraries and references to printed lists and catalogues.

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